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DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

FARM BUILDINGS, IMPLEMENTS, DOMESTIC ANIMALS

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NATURE AND VALUE OF PEAT AND MUCK.

ONE of the most interesting and valuable contributions to agricultural science which has appeared for some time in this country, is Prof. S. W. JOHNSON's Report to the Connecticut State Agricultural Society, on the Nature and Agricultural Uses of Peat and Muck.*

Thirty-three samples of peat were sent to Prof. JOHNSON, by gentlemen in different parts of the State. These were submitted to chemical analysis, and a circular was issued, asking information in regard to the nature of the deposits, manner of application, and the effects produced by the different peats. The results are embodied in the Report. As might be expected, the composition, mechanical structure, and fertilizing value, of the deposits vary considerably.

The amount of potential ammonia in the chemically dry peat, varies from 0.58 to 4.06 per cent. That is to say, one deposit contained *seven times* as much ammonia as another.

The *average* amount of ammonia, in the thirty-three samples of chemically dry peat, was 2.07 per cent.

Common barn-yard manure seldom contains more than half of one per cent. (0.5) of ammonia; and it is an unusually good manure that contains one per cent. We are safe in assuming that air-dried peat, of average quality, contains twice as much potential ammonia as an average sample of barn-yard manure. Prof. J. institutes a comparison between a good specimen of peat and a well-rotted farm-yard dung of good quality. We have not space for the table, but the peat contains about four times as much ammonia (2.92), three times as much sulphuric acid (0.33), a little more lime (2.43), and more than twice as much magnesia (0.36), as the manure. On the other hand, the manure contains nine times as much potash (0.49), twice as much soda (0.08), fifteen times as much phosphoric acid (0.45), twice as much chlorine (0.02), and three times as much soluble silica (1.68), as the peat. The principal characteristic of peat is its large quantity of organic matter. One ton of air-dried peat contains *five times* as much organic matter as a ton of well-rotted barn-yard manure.

Prof. JOHNSON, in commenting on the analyses of peat and manure, well observes: "We see thus that peat and yard manure are excellently adapted to go together; each supplies the deficiency of the other. We see, also, that peat requires the addition of phosphates (in the shape of bone dust, or phosphatic guano) and of potash (as unleached wood ashes), in order to make it precisely equal in composition to stable manure." A ton of manure contains about 9 lbs. of phosphoric acid and 10 lbs. of potash; a ton of peat a little over half a pound of phosphoric acid, and not quite one pound of potash. A bushel of ashes and 30 lbs. of bone dust would make the ton of peat equal in potash and phosphates to a ton of manure. In other respects, so far as composition is concerned, it is superior to the manure.

Aside from its value in furnishing food for plants, peat has many properties which render it useful in improving the texture and other physical characters of soils. Among them Prof. JOHNSON mentions —

1. *Its remarkable power of absorbing and retaining water, both as a liquid and as vapor:*

2. *Its power of absorbing ammonia:*

3. *Its action in modifying the decay of organic (animal and vegetable) bodies:*

4. *Its effect in promoting the disintegration and solution of mineral matters, (the stony matters of the soil): and*

5. *Its influence on the temperature of the soil.*

1. *Its absorbent power for liquid water* is well known to every farmer who has thrown it up in a pile to season for use. It holds the water like a sponge; and after exposure for a whole summer, is distinctly moist to the feel.

* Reports on Peat, Muck, and Commercial Manures, made to the Connecticut State Agricultural Society in 1857-8. By SAMUEL W. JOHNSON, Chemist to the Society, and Professor of Analytical and Agricultural Chemistry in Yale College. Hartford, Conn.: WILLIAMS & WILEY. 1859.

Its absorbent power for vapor of water is so great that more than once it has happened in Germany, that barns or close sheds filled with dried peat, such as is used for fuel, have been burst by the swelling of the peat in damp weather, occasioned by the absorption of moisture from the air. This power is further shown by the fact that when peat has been kept all summer long in a dry room, thinly spread out to the air, and has become like dry snuff to the feel, it still contains 10, 20, 30, and in some of the specimens I have examined, even 40 per cent. of water. To dry a peat thoroughly, it requires to be exposed for some time to the temperature of boiling water. It is thus plain that no summer heats can dry up a soil which has had a good dressing of this material, for on the one hand, it soaks up and holds the rains that fall upon it, and on the other, it absorbs the vapor of water out of the atmosphere whenever it is moist, as at night and in cloudy weather.

2. *Absorbent power for ammonia.* All soils that deserve to be called fertile, have the property of absorbing and retaining ammonia and the volatile matters which escape from fermenting manures, but light and coarse soils may be deficient in this power. Here again in respect to its absorptive power for ammonia, peat comes to our aid.

Prof. J. here details experiments which show that peat will absorb from one to two per cent. of ammonia.

We observe that the peat which is, naturally, richest in ammonia, absorbs less, relatively, than that which is poor in this substance.

When we consider how small an ingredient of most manures ammonia is, viz.: less than one per cent. in case of stable manure, and how little of it in the shape of guano for instance is usually applied to crops—not more than 40 to 60 lbs. to the acre. (The usual dressings with guano are from 250 to 400 lbs. per acre, and ammonia averages but 15 per cent. of the guano), we at once perceive that an absorptive power of two or even one per cent. is adequate for every agricultural purpose.

3. *The influence of peat in modifying the decay of organic matters deserves notice.* Peat itself in its native bed or more properly the water which impregnates it and is charged with its soluble principles has a remarkable anti-septic or preservative power. Many instances are on record of the bodies of animals being found in a quite fresh and well-preserved state in peat bogs, but when peat is removed from the swamp, and so far dried as to be convenient for agricultural use, is does not appear to exert this preservative quality to the same degree or even in the same kind.

Buried in a peat bog or immersed in peat water, animal matters are absolutely prevented from decay, or decay only with extreme slowness; but if covered with peat that is no longer quite saturated with water, their decay is indeed checked in rapidity, and the noisome odors evolved from putrefying animal substances are not perceived, still decay does go on, and in warm weather, no very long time is needed to complete the process.

The effect of peat in modifying decay is analogous to that of charcoal, and is probably connected with its extreme porosity. If a piece of flesh be exposed to the air during summer weather, it shortly putrefies and acquires an intolerable odor. If it be now repeatedly rubbed with charcoal dust and kept in it for some time, the taint which only resides on the surface, may be completely removed, and the sweetness of the meat restored, or if the fresh meat be surrounded with a layer of charcoal powder of a certain thickness, it will pass the hottest weather without manifesting the usual odor of putrefying bodies.

It does, however, waste away, and in time, completely disappears. It decays, but does not putrefy, it exhales, not the disgusting gases which reveal the neighborhood of carrion, but the pungent odor of hartshorn. The gases which escape are the same that would result if the flesh were perfectly burnt up in a full supply of air, viz.: vapor of water, carbonic acid, and *ammonia.*

If we attend carefully to the nature of decay thus modified by charcoal dust, we find that it is complete, rapid but regular, and unaccompanied by unhealthful or disagreeable exhalations.

Peat has all the effects of charcoal with this advantage, that it permanently retains the ammonia formed in decay, which, contrary to the gererally received opinion, charcoal does not.

From its absorptive power for water, it maintains a lower temperature under the sun's heat than dry charcoal or a light soil, and this circumstance protracts and regulates the process of decay in a highly beneficial manner, so that if a muck-dressed soil receive an application of stable manure, fish, or guano,—in the first place, the ammonia and other volatile matters cannot be formed so rapidly as in the undressed soil, because the soil is moister and decay is thereby hindered,—and in the second place, when formed they cannot escape from the soil, but are fixed in it by the peculiar absorptive power of the vegetable acids of muck.

4. *Peat promotes the disintegration of the soil.* Every soil is a storehouse of food for crops; but the stores it contains are only partly available for immediate use. In fact, by far the larger share is locked up, as it were, in insoluble combinations, and by a very slow and gradual change does it become accessible to the plant. This change is chiefly brought about by the united action of water and carbonic acid gas, or rather of water holding this gas in solution. Nearly all the rocks and minerals out of which fertile soils are formed,—which therefore contain those inorganic matters that are essential to vegetable growth,—though very slowly acted on by pure water, are decomposed and dissolved to a much greater extent, to an extent, indeed, commensurate to the wants of vegetation, by water charged with carbonic acid gas.

The only abundant source of carbonic acid is the soil, is decaying vegetable matter. Hungry, leachy soils, from their deficiency of vegetable matter and of moisture, do not adequately yield their own native resources to the support of crops, because the conditions for converting their fixed into floating capital are wanting. Such soils dressed with peat or green manured, at once acquire the power of retaining water, and keep that water overcharged with carbonic acid, thus not only the extraneous manures which the farmer applies are fully economized; but the soil becomes more productive from its own stores of fertility which now begin to be unlocked and available.

It is probable, nay almost certain, that the acids of peat, exert a powerful decomposing and ultimately solvent effect on the minerals of soil.

5. *The influence of peat on the temperature* of light soils dressed with it may often be of considerable practical importance. A light dry soil is subject to great variations of temperature, and rapidly follows the changes of the atmostphere from cold to hot, and from hot to cold. In the summer noon a sandy soil becomes so warm as to be hardly endurable to the feel, and again it is on such soils that the earliest frosts take effect. If a soil thus subject to extremes of temperature have a dressing of peat, it will, on the one hand, not become so warm in the hot day, and on the other hand it will not cool so rapidly, nor so much in the night; its temperature will be rendered more uniform, and on the whole more conducive to the welfare of vegetation. This regulative effect on temperature is partly due to the stores of water held by peat. In a hot day this water is constantly evaporating, and this, as all know, is a cooling process. At night the peat absorbs vapor of water from the air, and condenses it within its pores, this condensation is again accompanied with the evolution of heat.

It appears to be a general, though not invariable fact, that dark colored soils, other things being equal, are constantly the warmest, or at any rate maintain the temperature most favorable to vegetation. It has been repeatedly observed that on light colored soils, plants mature more rapidly if the soil be thinly covered with a coating of some black substance. Thus Lampadius, Professor in the School of Mines at Friberg, a town situated in a mountaneous part of Saxony, found that he could ripen melons, even in the coolest summers, by strewing a coating of coal-dust, an inch deep, over the surface of the soil. In some of the vineyards of the Rhine, the powder of a black slate is employed to hasten the ripening of the grape.

Girardin, an eminent French agriculturist, in a series of experiments on the cultivation of potatoes, found that the time of their ripening varied eight to fourteen days, according to the character of the soil. He found, on the 25th of August, in a very dark soil, made so by the presence of much humus or decaying vegetable matter, twenty-six varieties ripe; in sandy soil but twenty, in clay nineteen, and in a white lime soil only sixteen.

It can not be doubted then, that the effect of dressing a light, sandy or gravelly soil with peat, or otherwise enriching it in vegetable matter, is to render it warmer, in the sense in which that word is usually applied to soils. The upward range of the thermometer may not be increased, but the uniform warmth so salutary to our most valued crops is thereby secured.

In regard to the manner of applying muck, Prof. Johnson observes:

As to the time and manner of getting out peat, the circumstances of each case must determine. The month of August is generally the appropriate time for throwing up peat, as then the swamps are usually most free from water, and most accessible to men and teams; but peat is often dug to best advantage in the winter, not only on account of the cheapness of labor, and from there being less hurry with other matters on the farm at that season, but also because the freezing and thawing of the peat that is thrown out must probably aid to disintegrate it and prepare it for use.

Exposure or seasoning of peat. In most cases the chief or only use of exposing the thrown up peat to the action of the air and weather during several months or a whole year, is to rid it of the great amount of water which adheres to it, and thus to reduce its bulk and weight previous to cartage.

The general effect of exposure, as proved by my analyses, is to reduce the amount of matter soluble in water, and cause peats to approach in this respect a fertile soil, so that instead of containing 2.4 or even 6 per cent. of substances soluble in water, as at first, they are brought to contain but one-half these amounts, or even less. This change, however, goes on so rapidly after peat is mingled with the soil, that previous exposure is rarely necessary, and most peats may be used perfectly fresh.

The following extracts in regard to composting muck will be read with interest:

Preparation of Composts.—To a given quantity of stable manure, two or three times as much weathered or seasoned muck by bulk may be used. The manure may either be removed from the stables, and daily mixed with the appropriate amount of muck, by shoveling the two together, at the heap, out of doors; or, as some excellent farmers prefer, a trench, water tight, four inches deep and twenty inches wide, is constructed in the stable floor, immediately behind the cattle, and every morning a bushel-basketful of muck is put behind each animal. In this way the urine is pertectly absorbed by the muck, while the warmth of the freshly voided excrements so facilitates the fermentative process, that, according to Mr. F. Holbrook, of Brattleboro, Vt., who I believe first employed and described this method, *much more muck can thus be well prepared for use* in the spring, than by any of the ordinary modes of composting. When the dung and muck are removed from the stable, they should be well intermixed, and as fast as the compost is prepared, it should be put into a compact heap, and covered with a layer of muck several inches thick. It will then hardly require any shelter if used in the spring.

On the farm of Mr. Pond, of Milford, Conn., I have seen a large pile of this compost, and have witnessed its effect as applied by that gentleman to a field of sixteen acres of fine gravelly or coarse sandy soil, which, from having a light color and excessive porosity, had become dark, unctuous, and retentive of moisture, so that during the drouth of 1856, the crops on this field were good and continued to flourish, while on the contiguous land they were dried up and nearly ruined.

By reference to the Transactions of the Connecticut State Agricultural Society for 1857, it will be seen, in the very interesting report of the committee on farms and reclaimed lands, that on the farms which received the high premiums, and the most honorable mention, composts of muck and stable manure are largely employed.

Prof. Johnson pronounces the following opinion of several farmers a "fact," and "one which de-

serves to be painted in bold letters on every barn-door in Connecticut:" "*That a well made compost of two loads of muck and one of stable manure, is equal to three loads of the manure itself.*"

Guano may be composted with muck to great advantage—say a bushel of guano to eight or ten of muck. Fish and muck make an excellent compost. S. HOYT & SONS, of New Canaan, Conn., have employed 220,000 fish for this purpose in one season, and use ten or twelve loads of muck to one of fish.

A layer of muck one foot or more in thickness is spread upon the ground, and covered with a layer of fish; on this is put another layer of muck and another of fish; and so on till the pile is several feet high, finishing with a good layer of muck.

In the summer, when this work is usually attended to, the fermentation begins at once, so that no delay must be allowed after the fish are taken, in mixing the compost, and in a short time the operation is complete; the fish disappear, bones excepted, and by shoveling over, a uniform mass is obtained, almost free from odor, and retaining perfectly all the manurial value of the fish. Lands well manured with this compost will keep in heart and improve, while, as is well known to our coast farmers, the use of fish alone is ruinous, in the end, on light soil.

It is obvious that any other easily decomposing animal matters, as slaughter-house offal, soap-boiler's scraps, glue waste, etc., etc., may be composted in a similar manner, and that all these substances may be made together into one compost.

In case of the composts with guano, yard manure, and other animal matters, *ammonia* is the alkali which promotes these changes; and it would appear that this substance, on some accounts, excels all others in its efficacy; but the other alkaline bodies, *potash* and *lime*, are scarcely less active in this respect, and being at the same time of themselves useful fertilizers, they may be employed with double advantage in preparing muck composts.

LUCERNE.—This leguminous plant was extensively cultivated by the Romans, and commended by COLUMELLA as the choicest of all fodder. One acre he thinks sufficient to keep four horses through the whole year. The late Chancellor LIVINGSTON, some years ago, in Columbia Co., N. Y., obtained 25 tons of hay, at five cuttings, from an acre of lucerne. It requires very rich land, and should be sown in drills a foot apart, and the land must be kept very loose and free from weeds. The first year the crop is light, and it does not produce a medium yield till the third year. In the neighborhood of large cities, it might be grown to advantage as green food for milch cows. When drilled, 10 lbs. of seed is sufficient for an acre; broadcast 16 lbs.

INDIAN CORN, said the late JOHN TAYLOR, of Virginia, is the "meal, meadow and manure of the farm."

THOMAS BATES.

WE design to prepare for the *Genesee Farmer* short sketches of the lives of eminent agriculturists, accompanied with portraits. We think this will prove interesting, especially to the young farmers of our country. We hope, too, that they may serve to give them a higher appreciation of their noble calling, and stimulate to increased efforts after excellence in their profession.

THOMAS BATES, so well known as a Short-horn breeder, was born at Matfen, Northumberland, England, in the year 1775. He commenced his studies in a school at Haydon Bridge, and continued them at Witton-le-Wear, and completed his education at Edinburgh University.

In early life his attention was directed to the bar as a profession, but this was soon abandoned for the more congenial pursuits of agriculture. He commenced farming on one of his father's farms called "The Eeles," on the banks of the North Tyne, near Hexham. In the year 1800, he removed to Halton Castle, which he occupied for twenty-one years; thence to Ridley Hall; and subsequently to Kirkleavington, in Yorkshire, where he resided till the time of his death, which took place in the seventy-fifth year of his age, July 26, 1849.

It was on the Halton Castle farm that Mr. BATES laid the foundation for his celebrated tribes of Short-horns. The origin of his "*Duchess*" stock was a cow bought from CHARLES COLLING in 1804. So pleased was Mr. BATES with this specimen of the herd that at Mr. COLLING's sale at Ketton, in 1810, he determined to have at any price, a heifer, then two years old, called Duchess, a grand-daughter of the cow he possessed. His instructions to the auctioneer were that whatever sum any one might offer for Duchess he was to bid five guineas more; and he obtained the prize for 183 guineas ($922). From this animal, first crossed by a son of the old cow, came that produce which has earned for herself and her owner a world-wide celebrity. She was by the celebrated bull Comet, her dam by Favorite, grandam Duchess, by Daisy Bull, &c. Comet was owned by COLLING, and once sold for 1000 guineas. His descendant, BATES' celebrated bull Duke of Northumberland, was never put up at public auction, or there can be no doubt he would have brought an equal or greater sum. It is indeed known that Mr. BATES refused a private offer of 1000 guineas for him. He appears to have deemed him too valuable to put a price on.

For upwards of a quarter of a century Mr. BATES did not exhibit at any of the shows. He was, with great care, perseverance and skill, bringing his herd

THOMAS BATES, OF KIRKLEAVINGTON, ENGLAND.

to perfection. When he did exhibit he was eminently successful. In 1839, at the show of the Royal Agricultural Society, at Oxford, he made a most brilliant display, carrying off four prizes, and, in fact, winning everything for which he entered. Some of his animals commanded extraordinary prices, and at the sale of his stock, after his decease, in 1850, a higher average was obtained than at any subsequent sale since the time of the COLLINGS. One family—the Duchess—realized, including young calves, £1627 10s. (say $8,135) for fourteen lots, being an average of £116 5s. ($581) per head. This stock was descended from the heifer Duchess, before alluded to, purchased from Mr. COLLINGS 40 years previous. His entire herd of 68 animals, including calves, brought an average of £67 ($335) each.

Mr. BATES' fondness for his animals was remarkable. He would go to the cows, and even young heifers, in the fields, pat them and talk to them, while they would immediately give up their grazing, and look intelligently as if listening to and even understanding his remarks; approaching and licking his hand or his coat with every mark of affection. He lived among them and loved them, and they were loving and grateful in return.

Of his history as a farmer, we have space to say but little. He occupied a cold clay, which, when he took it was "hide-bound with poverty and exhaustion." He made it by far the best cultivated farm in the neighborhood. Of his early history as a farmer, we can give nothing so interesting as a few extracts from his own writings. He says:

"I had not been long engaged in farming before I became thoroughly convinced that the atmosphere contained the great ingredients for the amelioration of the soil. This I discovered by seeing the good effects of the same surface being exposed to the atmosphere, as long time as possible, before turnip seed was sown; and that the *fineness and openness of the soil being increased without changing the surface*, was the grand desideratum. A field plowed in October after oats, ribbed across in February, and then only worked with a scuffler afterward, never again plowed till drilled for turnips, produced the heaviest crop per acre of white turnips I ever saw, and this was in the year 1793. They considerably exceeded 50 tons per acre, when they had stood till February. They were sown in June. I

mention this fact to induce young men to attend to the operations of nature."

The following experiment shows the characteristic energy and determination of the man:

"I may also make a remark that may be serviceable to those who have found peaty earth mixed with new made dung highly beneficial, laying the same in layers 12 inches thick of peat earth, to 6 inches of dung, as new made; turning the heap over a few weeks before applying the same to the soil. I had seen this done in Ayrshire in 1805; I began the same on my return home, and was soon convinced of the benefit to be derived therefrom.

"In a distant part of the same farm, I had a very deep peat moss; and during the winter, I mixed it in the same way, with the new made dung; but on turning it in the spring, I saw no signs of the dung; the whole, as mixed, was applied to the turnip crop, and it was a complete failure. The barley sown after the turnips was not half the crop I had previously had on the same field, and the clover and seeds that followed were the same. I then applied 15 chaldrons of lime per acre, and plowed it in for an oat crop. The crop was a very great one, and the field afterward continued very productive; but not having then studied chemistry, I could not account for the deterioration, and then the after improvement; and this induced me to go to Edinburgh to study chemistry, to account for the change.

"The first trial made of peat moss was free from oxide of iron; the latter, that did the harm, had a very large portion of that salt; this destroyed the dung and rendered it useless; but the application of a large dose of lime (15 chaldrons per acre) removed the bad effects of the oxide of iron, and converted it into beneficial manure.

"This hint, costly to me in the first instance, may, I hope, be of benefit to others; and as such I have here detailed it fully."

The farmer who was willing to leave his farm for a time "to go to Edinburgh to study chemistry," deserved to succeed.

Of the management of his heavy, tenacious clay farm, Mr. BATES says:

"When I commenced farming here, in 1811, now thirty-seven years ago, nearly the whole tillage part of the estate was under the *three* course of cropping, still so prevalent in this district, and so deteriorating, viz., that of *Bare fallow, Wheat, Oats.* No farm-manure laid upon any of the crops; it was all applied to the grass land.

"I began by applying all the farm-manure made on the premises to the tillage land, and as far as I could for turnips; and where the land was too strong, and difficult to procure turnips, I applied it to beans drilled at 27 inches asunder in the rows, as in turnips, and sowed grass seeds on the wheat crop succeeding the turnips, to lie one or two years, which refreshed the tillage. But this being a slow process, I began and bought as much manure as the farm made, and applied this to the bean crop, taking wheat after the beans; and having made the land clean by a bare fallow before I began this plan, it succeeded well for two rotations of beans and wheat; and finding in a year when the land, from the sudden dry season after a wet spring, could not be well wrought for beans, they failed, and the wheat also succeeding the beans, I changed the system, and after turnip fallow and wheat I then sowed red clover, on the wheat crop; and finding, contrary to my experience in Northumberland, that red clover on our Cleveland strong lands would stand two years, I adopted it; and fallowing after the second year's clover, I found most excellent crops of wheat, without any manure applied for the wheat crop; but after being so repeated, at the interval of nine years, the first year's clover was good, but the second year was very inferior; I therefore changed my system to that of a twelve year's course, divided into two six years:—1st, fallow (turnips where they can be got); 2nd, wheat; 3rd, red clover; 4th, fallow (as before); 5th, wheat; 6th, beans (and if to be bare fallow the following year, I applied dung to the beans). Next six: 1st, fallow (as before); 2nd, wheat (on which was sown 5 lbs. of cow-grass, 5 lbs. of white clover, 2 lbs. of hop clover, and 2 lbs. of parsley with Italian rye-grass, ½ bushel per acre); 3rd and 4th, sheep pasture; 5th, oats; 6th, beans, being the twelve year's course."

Mr. BATES "mole-drained" 850 acres of his 1000 acre clay farm with great advantage, especially on the grass land.

So much for Mr. BATES as a breeder and a farmer. As a neighbor, a friend, a christian gentleman, he was universally esteemed and respected. Few enjoyed a wider range of popularity. His liberality was unbounded. Such were his efforts to circulate the sacred volume that he obtained the sobriquet of "Bible Bates."

He was never married. Early in life, it is said, he formed an attachment to a young lady, and was on the point of marriage; but before the event he introduced a near friend to his intended bride, who supplanted him in her affections, and ultimately married her. This must have been a severe stroke to so sensitive a mind, and was probably the cause of a resolve which a man of so much firmness of purpose was certain to keep.

Robust in body, active in mind, temperate in his habits, and living almost in the open air, he knew little of disease, and seldom, if ever, consulted a physician. When his health began to fail, it was some time before he could be prevailed upon to consult a medical adviser, and when he did he refused the greatest part of the medicine. Loving his favorite cattle, he reclined in the cow-houses near his companions, until compelled to enter his room—to leave it only a few hours after for the place appointed for all living.

FIVE THOUSAND-FOLD INCREASE.—A bunch of rye from a single kernel, on the farm of Mr. J. H Hidley, of Greenbush, N. Y., in 1842, produced 7[illegible] stalks, averaging six feet in length, the produce of which was estimated at 5,000 kernels.

ENGLISH BACON.

A CORRESPONDENT asks for information in regard to the method of curing bacon in England. We should be glad if some of our English friends would give us an article on this subject—especially as to the best method suited to this climate.

One method with which we are most familiar is as follows: The hogs are scalded and dressed as in this country, but are not allowed to freeze. When cool and firm, say in 24 to 36 hours, they are cut up. First, the head is taken off close to the ears; the body is then split down the middle and laid on a table. The ham is then cut from the side by the second joint of the back bone. The spare-rib is then taken out. Sometimes the shoulders are taken off at the first joint next the shoulder; in other cases they are cured with the sides without being taken off. The hams are rounded off, and all loose fat and flesh meat cut away.

The sides are termed "flitches." They are well rubbed with salt, and placed on a stone bench from whence the brine can drain away. As soon as the salt is all melted, say in three or four days, they are again rubbed with salt, to which a small quantity of salt-petre has been added. They are kept covered with salt for from three to four weeks, according to the size of the hog and the temperature of the weather. If it is very cold, and the hogs are large, they are sometimes kept in salt for five weeks. The hams are treated in the same way, except that they are sometimes allowed to remain a week longer in salt, and are rubbed with a larger quantity of salt-petre than the flitches. A pound of salt-petre to a hog weighing 400 lbs. is the usual quantity—the greater portion being used on the hams and shoulders. Care, of course, should be used to have every hole in the knuckles or around the bones well filled with salt, and an extra quantity of salt-petre.

When the flitches have been in salt the proper time, they are taken out, rubbed dry and hung up over the kitchen to dry. When quite dry and firm, say in a month or six weeks, they are taken down and stowed away in malt or some other dry substance. The hams are treated in the same way, except that they require more time to dry. The room should not be too warm. The cheeks are cured in the same way.

In many parts of England, as in this country, the bacon is smoked. In this we have had no experience.

In Hampshire, the hair, instead of being removed by scalding and scraping, is singed off by burning with straw, and to this it is thought the superiority of "Hampshire bacon" is mainly due.

WESTPHALIAN HAMS.

THE justly celebrated Westphalian hams are cured in a pickle prepared as follows:

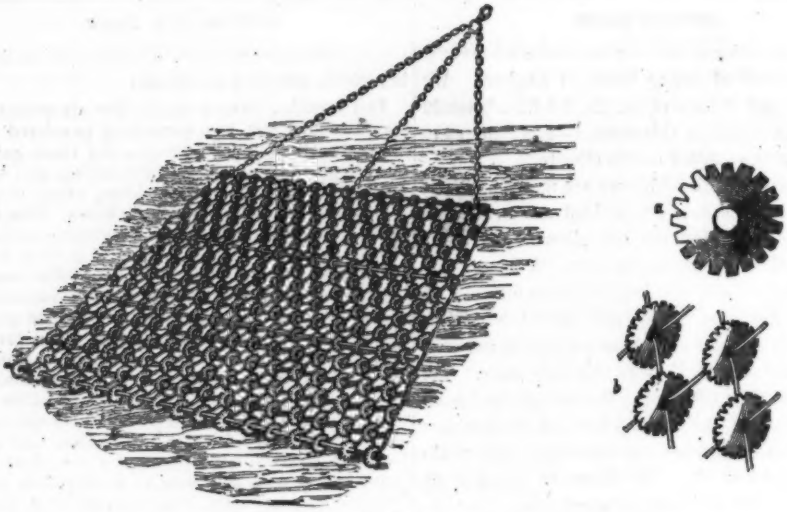
Boil together over a gentle fire six pounds of good common salt, two pounds of powdered loaf sugar, three ounces of saltpetre, and three gallons of spring water. Skim it while boiling, and when quite cold, pour it over the hams, every part of which must be covered with the brine. Hams intended for smoking, will be sufficiently salted in this brine in two weeks; though if very large, more time may be allowed. This pickle may be used repeatedly, if boiled, and fresh ingredients added. Hams, before they are put in the pickle, should be soaked in water, all the blood pressed out, and wiped dry. Much of the excellence of the ham is depending on the smoking. This should be done in such a manner that the ham shall be cool and perfectly dry throughout the whole operation. If too near the fire, they will be heated, and their flavor injured; if the building be too close, the hams will be wet, and taste as if dipped in pyroligneous acid. At Hamburg, where large quantities are prepared, the hams are smoked in the upper story of high buildings, while the fires, which are made of oak or maple chips, are made in the cellars. In passing through such a length of pipe to the chambers, the smoke becomes cool and dry; and the flavor of the hams is excellent. Hams intended for summer use, may be kept in any way where they will be dry and cool, and secure from the fly or bug. Washing with lime or putting in bags of coarse cloth, one ham in each, is practiced by many. Some keep their hams through the season in the smoke house, making a smoke under them once or twice a week.

INFLUENCE OF AGRICULTURAL PAPERS.—The Rev. Mr. CHOULES in an address delivered some years since, before the American Institute, said:

"He once undertook to tell, in passing through a town, what farmers took agricultural papers, from the appearance of their farms, and missed but once in thirteen times.

"I was lately in the company of a son of a bank president—a young man accomplished in his way—who inquired what *neat cattle* meant, and how many years it took *wheat* to come to maturity. I earnestly believe that agricultural papers, generally circulated in our cities, would be productive of the greatest benefit."

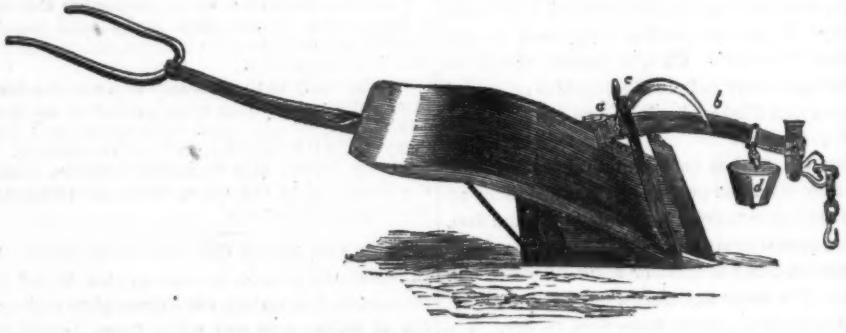
BEANS AND INDIAN CORN FOR MILCH COWS.—R. H. BROWN, of Greece, informs us that he fed his cows, early this spring, with three pints each per day of Indian corn and white beans, ground together in equal parts. He never had his cows do so well on any other food; they gave a large quantity of milk, and the calves were the finest he ever raised. This food gave the cows a good start, and they continued in good condition during the summer, and afforded an unusual quantity of milk. He says he shall sell no more beans, but feed them to his cows.



SMITH'S WEB-HARROW.

SMITH'S WEB-HARROW.

We annex an engraving of an ingenious harrow invented by the late Mr. Smith, of Deanston, England. It is designed to cover small seeds; the aim being to combine the operations of the roller and harrow. It is called the web-harrow, and was alluded to in the last volume of the *Genesee Farmer*. We have now the pleasure of presenting a cut of it. It consists of an iron chain web, connected by discs or quoits of iron which, lying obliquely upon their sides when in operation, roll around, thus tearing and abraiding the surface of the ground, and grinding the smaller clods, so as to expose and disturb the surface sufficiently to cover the small seeds strewn upon it. The serrated form of the disc is shown at *a* in the accompanying figure, where the mode in which these dics bind the whole framework together is also exhibited at *b*. It is by the rubbing of the sides of the discs against the land, as they revolve, that they are especially useful, more than by the action of their edges, though that is also efficient to some extent. The price of this harrow in England is about $25, covering 25 square feet of ground.



M'EWAN'S DRAINING PLOW.

PLOWS FOR CUTTING UNDERDRAINS.

It is frequently the practice, in cutting underdrains, to throw out the first eight or ten inches of earth by means of the common plow. The accompanying figure, taken from Morton's *Cyclopedia of Agriculture* represents a plow sometimes used in Scotland for throwing out a lower spit.

In addition to the ordinary coulter, it also carries another, *c*, supported by two iron arms attached to the beam at *a* and *b*. By means of the two coulters and the shoveled-shaped mouth, or share, a furrow slice is at once cut out the width of the drain, and ten to twelve inches deep. The vertical roller, *d*, preserves the position of the implement in the

center of the shallow trench. Such an implement, of course, requires a great amount of power to put it in motion. Mr. M'Ewan, who first introduced it in Scotland, employed twelve horses to remove a spit of from eighteen to twenty-two inches deep; and with the assistance of eight men to finish the bottom of the drain and guide the plow and horses, continued to execute drains of the depth named for one cent for eight yards.

SPIRIT OF THE AGRICULTURAL PRESS.

Rolling the Snow on Wheat-Fields.—A correspondent of the *Toronto Globe* (C. W.) advances the opinion that rolling the snow on the autumn wheat in winter would be an effective means of preventing winter-kill, by rendering the snow less liable to melt on every sudden thaw that occurs. He says the practice is extensively followed in Sweden. A good deal of discussion is taking place through the columns of that paper, on this subject, from which we gather that it yet requires the test of actual experiment to decide whether any benefit is to be derived from the operation or not.

Watering Cows.—The *Boston Cultivator* gives an account of a recent visit to the farm of the Hon. Josiah Quincy, Jr., near Boston, and says the stables are so arranged that the cows have a trough of water before them, covered with a lid hung on one side with butts, so that when the cow wants to drink she has only to raise the lid with her nose to get at the water. Mr. Quincy is perfectly satisfied with a cow that gives 16 quarts of milk a day, whether she has a pedigree or not.

How Corn Shrinks.—A correspondent of the *Prairie Farmer* weighed out 75 lbs. of corn on the ear, dried it, shelled it; and on submitting it to the test of the scales again, found that the corn and cobs together only weighed 60 lbs., having lost 15 lbs. He thinks it did not shrink more than most corn will by keeping over winter.

Increasing the weight of Wool.—An exchange says some farmers have increased the average yield of wool in their flocks, by weighing each fleece as it was sheared, and branding the weight on the animal it came off, and always selecting those for sale or slaughter that had the lowest weight of fleece marked upon them.

Value of Cashmere Goats.—The *New York Observer* states that its weight in silver was tendered recently for a pure bred goat belonging to the Cashmere Shawl Goat Co. of Tennessee. The offer was refused. The company sell the wool of their seven-eighth blood goats for $8 per lb.

Fawkes' Steam Plow.—The *Ohio Cultivator* thinks the recent trials of this implement have been all a sham. The *Prairie Farmer* doubts whether the machine can be economically used for plowing. The *North-Western Prairie Farmer* in plain terms intimates that the trial of this plow at Urbana, Ill., on the 22d November, was a failure; they were a series of break downs.

Texan Sheep Farms.—An exchange, remarking on the shipment of fourteen South Down rams, by Geo. Hartshorne, of Rathway, N. J., to Indianola, Texas, says that a steady feeling is growing up in favor of making Texas the greatest wool producing State in the Union. Mexican ewes are purchased at low prices, and by crossing them with males of the improved breeds, they produce stock of increased value and well adapted to the climate and pastures of that State. Would not the fine-wooled sheep be more profitable?

Feeding Hens in Winter.—A correspondent of the *American Agriculturist* recommends giving hens hot food in winter to make them lay. He says the best way is to put a quart of small potatoes in an old pan, and set them in the oven. Mix a quart of wheat or buckwheat bran in the swill pail, with boiling water; then add about one quart of live coals from the stove, the potatoes hot from the oven, and all the egg shells on hand, with a little salt or sulphur occasionally. These are all mashed together, and fed to the fowls in a trough so made that the hens can not step into it, but only put their bills in. This feed is given in the morning, at noon some corn, and at evening oats, or wheat screenings.

Scotch Butter.—The farmers of Aberdeenshire, Scotland, make a very superior flavored butter. They mix together two quarts of the best common salt, one ounce of white sugar, and one ounce of saltpetre. The mixture is to be rubbed up fine in a mortar, or on a board with a roller, and worked into the butter at the rate of one ounce to the pound.

Kansas Wheat.—The editor of the *Rochester Express*, who has spent some time in Kansas, says they grow very fine wheat there. He saw a sample weighing 65 lbs. per bushel, and yielding 30 bushels per acre.

Spaying Cows.—The *New England Farmer* states that a gentleman at Newburyport had two cows spayed last spring, and is well satisfied with the beneficial effects produced by the operation. The cows give as much milk in October as they did just after calving in May.

PLOWING UP OLD PASTURES.

Mr. Main, in the *Edinburgh Quarterly Journal of Agriculture* for 1834, writes an interesting article on this subject, from which we make a few extracts:

"Struck, when a boy, with delight at the evergreen meadows of Doncaster, and the freshness, in the dead of winter, of the fields near London, I could not, in settling in the north, help contrasting these—with a feeling almost bordering on disgust—with our whity-brown *grass parks* of Scotland, wearing, in many places, a pale blue tint till the beginning of June, or puffed off in the newspapers, as affording "a full bite" in the middle of May. I said to myself, "can not industry and exertion produce a change in our grass lands? Perhaps we can not expect to vie with Doncaster or London, but still something may be done." So doffing the gay soldier's coat, and putting on the hodded grey, I set to work, to try if fine pasture could not be got in Scotland. Long did I toil at top-dressing,—all the never-failing, oft recommended recipes of this compound and that compound, I tried in vain,—peat-earth in all the varied shapes of mixture with lime and dung, soot, composts with scrapings of ditches or other matter—all these I tried in various ways. I exhausted the pharmacopeia of agricultural quacks; and soon found out, that without the aid of plow and harrow, nothing could be done—in other words, that the ground must be put in *good heart* before you can have *good grass*.

"Well, that being done, I had fine grass; but it grew bad again; it was not fine *permanent pasture*. I had recourse, once more, to the old system of top-dressing, and of course improved the pasture, but again it fell off. By this time I had before my eyes the palpable fact, that new laid down grass was good, and that, do what I would, old grass could not be made to bring the same rent."

"It appears to me, that only on certain soils and situations, that pasture can be allowed to remain without great loss; that such situations are flat meadows, or the neighborhood of rivers or streams, rich in alluvial soil, and the natural habitat of the pasture plants, or in the vicinity of large towns, where manure has been applied till the ground could not bring a grain crop to maturity; and that on all other situations, recourse must be had to the plow, as soon as a failure in the grass crop takes place; and the breaking up will entirely depend on the quality of the land and manner in which it has been treated, there being no such true *unerring* guide to the *quality* of the land, as the length of time it can be profitably left in pasture."

"In conclusion, I would make a brief recapitulation of my sentiments: I maintain that except a few favored spots, as banks of rivers, &c., no ground can, without loss, be left long in pasture: that it appears to me four or five years is, generally speaking, the longest period land should be allowed to lie in grass; that if pasture be the object, at the end of that time, the ground should be broken up and returned to grass again. I maintain that *without grass* severely cropped land can not be restored to full fertility; and *without cropping*, grass can not be made to continue at the maximum point of utility and verdure."

A ROUGH AND CLODDY SURFACE SOIL FOR WHEAT.

Eds. Genesee Farmer:—The exceptions taken, in a recent number of the *Farmer*, by a "Jersey man," to your very apposite remarks on the subject, "a rough surface for wheat," suggested the inquiry, "can this criticism come from *New* Jersey or *old*—away near the French coast?" At any rate, his ideas are behind the times, and his facts of a bygone period. Even twenty-five years ago, the proportion of wheat plowed in, in England, was less than either that covered with harrow or deposited by the drill—less than one-third of the average annually sown; and although I have farmed and observed in several rich counties in that country, I never, by any chance, heard the advocacy, or saw the practice, of such deep plowing for wheat as for beans, fallow-roots, &c. In fact, it would not do to plow up *new* mold for wheat, any better than to supply it with raw or green manure; because it is neither a large nor coarse feeder, but requires a moderate amount of well-prepared nutriment, made ready for assimilation by successive alternations of mechanical pulverization and atmospheric disintegration, which new mold and fresh dung have not been subjected to. A well settled soil, with plenty of mold fit for the use of the crop on its air-crumbled surface, and the latter left rough to supply 1½ to 2 inches of covering mold, yet still retaining a somewhat rough surface, till the wheat is high enough to harrow, is the condition of mold generally that wheat best likes and flourishes in. For such irregularities are really necessary on heavy and adhesive land to prevent starving, — making smooth like a slate—the baking and cracking of the soil, and the choking or mud-logging the up-growing young plants; beside which a cloddy or corrugated surface affords much protection when the young crop is exposed—from the aspect of the field or other cause — to keen, cold, mold-lifting winds. The roots of wheat ramify and extend near the surface, generally, because the nourishment they require and absorb is usually found in the upper-crust of the soil—and this will ordinarily hold true of the mineral elements as well as the larger proportion of organic or vegetable remains which this plant uses in its growth; for, though mineral matter be carried to the roots in solution—probably in part by the same fluid which floats it up to the stem as crude sap—it must have been solved and otherwise made fit for use in the *surface* soil, because further down the temperature would be generally so low as to prevent the necessary chemical changes and combinations that undoubtedly take place in inorganic matter before it is absorbed by the rootlets. Thus it appears probable and consistent, that far greater benefit will, generally, be derived from manurial applications when they are first brought into a condition that will admit of easy and complete pulverization; and then so mixed with the immediate surface mold, as to be fully accessible to the heat and vapor of the atmosphere during the growth—especially in its early and more rapid stages—of the entire crop. In short, the reliable food of the plant is generally prepared by the action of heat in the top soil, wherefore it should be left with a large surface exposed to the subtle but infallible powers of the atmosphere.

J. W. C.

WHAT DEPTH SHOULD WHEAT BE COVERED?

A WHEAT-GROWER of Western New York gives the following facts bearing on this point, in the Albany *Cultivator* for 1842.

In a bed of rich garden mold, I sowed, or rather dibbled five rows of wheat, the respective depths of which were one, two, three, four, and six inches. The season was most favorable for germination, moist and warm, and the seed was carefully selected from a quantity of fine white flint, of the previous year's growth. That put to the depth of one inch, came up on the sixth day; and the rows of two and three inches, about two days later. The row at four inches was still more tardy, and at the end of sixteen days, only one of the seeds planted at six inches, showed itself above ground. The others never came up at all.

The rows planted at two and three inches, gave the best plants, that at one inch the most; although from some unexplained cause, about one sixth of the seed in all the rows, failed of germinating. Other experiments with nearly the same results, and close observation of the different modes of sowing, have convinced me that covering wheat too deeply is to cause a loss of a large portion of the seed, and seriously impair the germinating powers of the remainder. On the contrary, when the seed wheat is covered too shallow, it is more liable to destruction from insects, and from the drouth, and is not so well prepared to endure the frost of our winters, as when planted deeper. I apprehend too, that where wheat is put into barns, packed in large mows, and perhaps but imperfectly cured, the mass, in undergoing the sweatening process, through which it is certain to pass, accumulates so much heat as to change in some degree the vital properties of the grain, and partially destroy its geminating power. This may be the case without altering in any degree the external appearance of the grain.

A GOOD CATTLE RACK.—It consists of four scantling or other posts, six feet long, connected together by slats, strips of board six feet in length, and supported by diagonal braces extending from the top of one post to the bottom of the frame—the whole forming a six feet square. The slats are carried so high as to permit animals to reach the bottom over them—and it is advisable to floor the bottom. In these the hay or straw is put for the stock. The advantages which it offers are two—it prevents the fodder getting under the cattle's feet, and thereby being wasted—and it in a measure prevents the weak animals being driven from their food by the strong—four being accommodated at each rack without interfering.

PARSNIPS.—One of the easiest raised, and most profitable roots to feed to cattle in winter, is the parsnip. Though probably not quite equal to carrots, they are, in my opinion, superior as feed for stock to turnips, beets, and mangel wurzel; and are much easier to raise, and keep better through the winter. Perhaps, if acceptable, I shall in a future article give my method of culture, having always been successful.—W. H. H. PEARSON, *St. Lawrence Co., N. Y.*

We shall be glad to receive the article. EDS.

MANURING THE WHEAT CROP.

EDITORS GENESEE FARMER:—You have an invaluable correspondent in Mr. JOHNSTON, of Geneva. He seldom writes a letter which would not yield more profit to the majority of farmers, if its advice were attended to, than would suffice to pay for three or four agricultural papers the rest of their lives.

The application of manure directly to wheat is contrary to ordinary practice. I should fear an attack of rust. Do you know if wheat grown this way is no more liable to rust than other crops not so treated? If you try the experiment I suspect you will find that harrowing the manure into the soil with the wheat rather than plowing it under, is the best practice.

My usual plan has been to place manure in heaps and spread just before plowing; but in consequence of reading VOELKER'S paper, I last spring spread the manure over half a field intended for corn, as I hauled it out—the manure on the other part being spread the day it was plowed under. The corn on that part of the field where the manure was first spread was quite as good as the other; but the weather was cloudy and stormy during the whole of the time the field was plowed. Had it been bright and dry, the result might have been otherwise.

Moundville, Wis. JNO. TOWNLEY.

REARING CALVES:—The handsomest young heifer I ever saw, was one that was raised on potato mush. The cow died when the calf was an hour old, and we had no other cow giving milk at the time. An Irishman who lived close by us, showed me how to make the potato mush; we fed the calf entirely upon it, and by the time it was three months old, it was larger and fatter than any of those that came afterward, and were fed entirely on milk; and by the time it was three years old, it was valued at $40, at which time some thief stole it, and we never saw it again.

I would never let a calf, that is to be raised, suck the cow at all; for if it is allowed to suck but once, it will be much more troublesome to teach it to drink afterward. I have known calves starve to death because they would not drink after having sucked the cow for a few days.—J. B. M., *Hawley, Pennsylvania.*

How was the mush made? EDS.

THE WHEAT MIDGE.—ROBERT MILLARD, of Hampton, Washington Co., N. Y., alludes to this insect as follows, in the *Cultivator* for 1836:

The wheat crop in this section of the State, has been more or less injured, I believe for twelve years past, by what is here called "insects in the head." "These insects or maggots prey upon the kernel while growing in the field, and before the grain has become hard." In 1824 I had a field, containing five or six acres, about half destroyed, and subsequently for four or five years, my entire crop was destroyed. In 1830 I abandoned the idea of trying to raise wheat here, and have not since sown any. A neighbor of mine wishes me to say, however, that for two years past he has raised fine crops of spring wheat, by sowing his seed the 1st of June. Not an insect or maggot was to be found in either crop.

SEEDLING POTATOES.

Eds. Genesee Farmer:—Having had some experience in the raising of potatoes from the ball seeds, I will give it to the readers of the *Farmer*, thinking it may be interesting to some. My first experiment was in 1855, when I obtained a few balls from the vines of *Peach Blow*, *Leopards*, and a variety here called *English Whites*. The seeds were not fully ripe, and only a few came up, and the insects destroyed all but three of these. From these I obtained three or four tubers, about as large as *Marrowfat* peas. I kept them through the winter in a small bag, buried in sand in the cellar. In the spring, I planted them in rich ground in one hill. When dug I found a pretty good yield, but rather small, being from the size of a pea to a partridge egg. The product of these I planted last spring, and they yielded I think about nine or ten bushels—rather a small yield. From their appearance, I think there are three varieties, though there may be four. Two varieties are nearly alike in appearance. Of these three varieties, the largest and best is long, round, dark colored, with deep eyes. It yielded this year an enormous number of middling-sized potatoes to each hill. It is an excellent variety to bake, though one end (the seed end) is rather watery, as they were not ripe when the frost came. The next best variety is a white, with deep eyes, shape long and some knotty; an early variety. third variety is nearly white, but some of the largest have a part of the eyes pink colored; a very handsome variety, but small, very late, and very worthless for this section. This year I have raised about forty potatoes, varying in size from a pea to a dove's egg, mostly seedlings of number three. They are so small I can not tell what, or how many, varieties there are.

Pitcairn, St. Law. Co., N. Y. W. H. H. PEARSON.

Bermuda Potatoes.—I have just taken up a small lot of potatoes, a note of which may not be uninteresting to the readers of the *Farmer*. The seed consisted of six medium sized potatoes, presented by a friend, who called them *Bermudas*. They are of a red color, long and flat in shape. Having cut them in pieces containing one eye each (72 in number), I planted about the middle of May, in a light sandy soil, and manured in the row with barn-yard manure, and top dressed with leached ashes; horse-hoed twice and hand-hoed once a week, until they blossomed. The result is, two and one-eighth bushels good sized potatoes. Allowing each hill to be one foot apart, and rows three feet, we have over four hundred and twenty-five bushels to the acre.—J. O. H., *Dillsburg, Oct.* 1859.

Comparative Value of Fuel.—Several years since Mr. Marcus Bull instituted a series of experiments, in regard to the quantity of heat given out by different kinds of fuel. The result was as follows:

Hickory,	4	cords.
White Oak,	4 3-4	"
Hard Maple,	6 2-3	"
Soft Maple,	7 1-5	"
Pitch Pine,	9 1-7	"
White Pine,	9 1-5	"
Anthracite Coal,	4	tons.

In other words four cords of hickory give out as much heat as 4 tons of coal, 6 3-4 cords of maple, or 9 1-5 cords of pine.

PROPER FORM AND SHAPE OF CATTLE.

If there is one part of the frame, the form of which, more than that of any other, renders the animal valuable, it is the chest. There must be room enough for the heart to beat, and the lungs to play, or sufficient blood for the purposes of nutriment and of strength will not be circulated; nor will it thoroughly undergo that vital change which is essential to the proper discharge of every function. We look therefore, first of all, to the wide and deep girth about the heart and lungs. We must have both; the proportion in which the one or the other may preponderate, will depend on the service we require from the animal; we can excuse a slight degree of flatness of the sides, for he will be lighter in the forehand, and more active; but the grazier must have width as well as depth. And not only about the heart and lungs, but over the whole ribs, must we have length and roundness; the *hooped*, as well as the deep barrel, is essential; there must be room for the capacious paunch, room for the materials from which the blood is to be provided. The beast should also be ribbed home; there should be a little space between the ribs and the hips. This seems to be indispensable in the ox, as it regards a good healthy constitution, and a propensity to fatten; but a largeness and dropping of the belly is excusable in the cow, or rather, notwithstanding it diminishes the beauty of the animal, it leaves room for the udder; and if it is also accompanied by swelling milk-veins, it generally indicates her value in the dairy.

The roundness and depth of the barrel, however, is most advantageous in proportion as it is found behind the point of the elbow, more than between the shoulders and legs; or low down between the legs, rather than upwards towards the withers; for it diminishes the heaviness before, and the comparative bulk of the coarse parts of the animal, which is always a very great consideration.

The loins should be wide: of this there can be no doubt, for they are the prime parts; they should seem to extend far along the back; and although the belly should not hang down, the flanks should be round and deep. Of the hips it is superfluous to say that, without being ragged, they should be large; round rather than wide, and presenting, when handled, plenty of muscle and fat. The thighs should be round and long, close together when viewed from behind, and the further down they continue to be so the better. The legs short, varying like other parts, according to the destination of the animal; but decidedly short, for there is an almost inseparable connection between length of leg and lightness of carcass, and shortness of leg and propensity to fatten. The bones of the legs, and they only being taken as a sample of the bony structure of the frame generally, should be small, but not too small—small enough for the well known accompaniment,—a propensity to fatten—small enough to please the consumer; but not so small as to indicate delicacy of constitution, and liability to disease.

Last of all the hide—the most important part of all—thin, but not so thin as to indicate that the animal can endure no hardship; moveable, mellow, but not too loose, and particularly well covered with fine soft hair.

THE BRITISH YEOMAN, WINNER OF THE GREAT METROPOLITAN STEEPLE-CHASE IN 1849.

THE BRITISH YEOMAN.

We have had the above portrait of this celebrated horse engraved for the *Genesee Farmer*, from a steel engraving in the *London Farmer's Magazine*. We copy the following description of him from the same work:

The British Yeoman, a bay horse, bred by Mr. V. Corbet in 1839, was sired by Count Porro, out of Pintail by Pioneer, her dam Ringtail by Buzzard, her dam by Trentham out of Cytherea, sister to Drone by Herod—Lily by Blank.

Count Porro, was but a bad race-horse, having during the three seasons he was in training never won anything but a fifty pound plate. As a stud-horse, too, he does not rank high; for beyond a couple of fairish mares, Jemima and Miss Maria, the property of Sir Richard Bulkeley, and his great card the Yeoman, there has been nothing out by him to "signify." His stock, however, were generally handsome, with—a family likeness—particularly good, blood-like heads.

Pintail, bred by Mr. Rush in 1824, and the last of a dozen foals her dam produced, never ran but once, when she was not placed, in a two-year-old stake at Newmarket. She was sold the following spring, at the hammer, to Mr. Corbet, who bred from her some for seasons with but indifferent success. Our friend "the Racing Man," though, is so well up (as the lawyers say) in this case, that to make the history complete we repeat the following from his account of the Metropolitan Steeple Chase. After a note of admiration for Mr. Mason, he thus proceeds:

"Of his horse, 'The British Yeoman,' I am perhaps better qualified to speak than of his accomplished jockey, this across-country crack having been bred by a much respected friend, and affording a striking example of the success that perseverance will sometimes attain in breeding. Pintail, the dam of the Yeoman, was put to the stud at three years old; and throwing a foal almost every spring for thirteen or fourteen years, never up to that time produced one worth breaking. Many of them were fine good-looking colts; that in no way, however, fulfilled the promise of their appearance; as race-horses, and they were tried often enough, not one could win a ten pound note. As hunters they were famous for bad hocks, and not being able to go a yard through dirt. Many a day have I sickened on one, whose only fit duty, with his fine mouth and good action, was to canter up Rotten Row. So disheartening, in fact, did the case become, that the celebrated Nimrod, when on a visit at the house, walked into the drawing room one morning, after a round of inspection, with these words in his mouth:

"'My dear madam, I can tell you how to save my old friend a good income.'

"'How, pray?' of course inquired the lady.

"'By cutting that brute Pintail's throat.'

"And yet, after that, this brute, Pintail, lived to produce the very best steeple-chase horse of his day.

"The British Yeoman is altogether a better horse than he looks. From his appearance you would hardly give him credit for carrying that weight through dirt he has so sufficiently proved he can do. He is light everywhere, all wire in fact, with far more the cut and carriage of a race-horse than a hunter. From what I could gather of him, I should say two of his best points were, a fine mild temper and excellent action for the kind of country I saw him go over. I have little doubt, indeed, that with some material to work on, much of his success is due to the clever hands into which he has fallen."

FOWLS—THEIR IMPORTANCE, MANAGEMENT, &c.

"The noble and ancient Chanticleer, whose clarion notes have been the farmer's timepiece ever since Peter denied his master, and has never failed to sound the approach of every rising sun; the bird that saved old Rome from conflagration by his warning voice in the dead of night—shall these lose their old and established rank, and give place in man's affections to herds of swine and sturdy bulls of Bæshan? What are their uncouth grunts, frightful bellowings around the farmer's cottage, compared with all the music of the cheerful cackling, chattering, chirping, and crowing, with which the poultry-yards resound from day to day? If there is not music, there is life in it."

But to come more to sober matter-of-fact, we think this branch of the farmer's concern is deserving of more attention than it has generally received. It has been well established, that the profit derived from a well-managed, well-arranged poultry-yard, is greater in proportion to the investments, than that of any other stock.

Fowls are most valuable to the farmer, as yielding eggs and chickens. The varieties of the fowl are very numerous, and are distinguished from one another by their size, color, and fecundity. In order to be successful with fowls, they should be kept very clean and dry in the hen-house, and particular care must be taken to furnish them with clean, sweet water; foul, impure water, produces that most dreaded and fatal disorder among chickens called gapes, which is known by the chickens gaping for breath, and often dying in a few hours. No certain or efficacious remedy, as yet has been discovered for this disorder; therefore we advise care and cleanliness to prevent it. Foul water, and a scarcity of water, are also causes of the roup in hens, and the origin of most all, if not all, their diseases. Poultry of all sorts should therefore be provided with clean apartments, to retire into during the night, and in seasons of wet and cold. Warmth is necessary for the comfort and well-being of poultry. If hens are kept with care, well fed, and have clean, quiet places to deposit themselves in, they will lay regularly, and repay all trouble. Early hatched pullets will generally commence laying early in the fall, and, if well fed, warm and comfortably housed, will continue to lay through the winter. The laying time for older hens begins in March. A hen about to lay, gives notice of her intention by being busy and restless and peering into sly places, and *talking to herself* for some time, and her comb becomes very red. Her cackling gives notice the deed is done. Let her, then, have a quiet, obscure place, to lay in.

Fowls should not be allowed to wander much in the laying season; they lay better and more regularly, and the eggs are more easily secured, when confined to their own yard; but, instead of a close, dark, diminutive house, and a contracted 7 by 9 yard, as is often the case, they should have a spacious airy place, properly constructed, and if possible, running water for them. C. N. BEMENT.

Springside, Oct. 1859.

Sulphur is one of the best substances for freeing all animals from vermin, by feeding it to them occasionally.

HOW TO ATTAIN DESIRED POINTS OF EXCELLENCE IN FOWLS.

It will be seen that the possession of one bird of either sex among those that will breed in this country will enable the owner, if he is patient and will take the trouble, to perpetuate the race. This was done most successfully by the late Earl of Derby with the beautiful Versicolor Pheasant; and was begun, but not carried out, by the late Lord Hardinge with some Pheasants he brought from the Himalayas. Of all sorts of Pheasants, and of Jungle fowls brought to this country, the cocks only arrive alive, because they are packed with hens in small cages, and they always kill them. If those who are disposed to try to import them will have birds cooped separately, they will get them over alive.

The male bird of whatever sort he may be is put with a female of this country that most nearly resembles him; the next year he is put to a hen the produce of the first; the third year he is mated to the produce of the second, and the fourth to the third. By this time the appearance of the cross has almost or quite disappeared, and the produce may be freely mated together. There will at times be vindication of original rules, and the birds will throw back. For this reason the original cock should be kept and used as long as possible.

Now, as this is true of Pheasants, it is equally so of fowls. If Cochins are become faulty in one point—say they are coarse about the head and comb—then choose a cock of undoubted merit in that particular, and mate him with the least faulty hen. The improvement will be at once perceptible; but if the cock be then mated with his daughter, it will be seen that his points are carried out in his progeny. Of course, the same process may be adopted for feather. It would be more frequently done but for the time and care that are required. Where perfection is sought in this, like everything else, it is the reward only of those who will strive for it. Success is not doubtful, as the process we have named has often proved a certainty.—*London Cottage Gardener.*

Cure for Ringbone.—Mr. L. F., Delaware Co., Indiana, wants to know if ringbone can be cured. I would say to him, and the rest of your many readers, that if of not long standing, it can; or at least I have cured them. Take one ounce of iodine and three pints of ninety-five per cent. alcohol, and let it stand four days, or until it is dissolved, shaking it frequently, and saturate the lumps with a common paint brush. Be careful and not get it on your hands or clothes. Put it on three times a day; and if it gets sore, wash clean with castile soap, and omit for a few days. If Mr. C. G. N., of Palestine, Ind., will send a letter to me, at White House, N. J., and state the particulars, I will send him a cure, as it wants different treatment at different stages of the disease.—Jacob Van Doren, *White House, N. J., Oct.* 24, 1859.

Foot Rot in Sheep.—Take 1 lb. of blue vitrol, 1 ounce of alum, pulverize them as fine as flour, mix with one table-spoonful of honey and hog's lard enough to make a salve; then pare the foot thoroughly, leaving on no loose hoof, and rub the salve on the sore. All theaffected ones should be placed by themselves and the rest carefully watched.

THOUGHTS FOR THE THOUGHTFUL.

From various Sources.

Most of the diseases of sheep are the consequence of debility.

Lambs should be separated from old sheep. Old and feeble sheep, separated from the rugged.

Sheep, as well as other animals, should have access to fresh water, when fed on dry food, in winter.

Farmers who find it necessary to reduce their flocks, should be very particular in selecting those that they keep, and let none but the poorest go from their farms.

Sheep in Winter should have fresh air, shelter from cold winds, a little exercise, occasional change of quarters, *dry*, clean lodging, and nutritious food. A close, damp, low yard is their abomination.

A cross between the South-Down and the Merino makes a very useful and profitable sheep. The wool will *sell* for nearly as much as the Merino, and the lambs will bring more for the butcher.

Sheep are perhaps the most profitable stock on suitable land, and with good management; but on unsuitable soil and ill-management, they are the least desirable of farm stock. "What the man is worth the land is worth." What the shepherd is worth the sheep are worth.

All animals should, if possible, be housed, or provided with shelter. Cattle require much less food when stabled, than when allowed to run at large, as they waste little or none, and comfort is essential to their thrift. More manure is also secured, an object of great consequence to every farmer that understands his true interests. Sheep, if housed, must not be crowded into close stables or houses, as disease is apt to be the result; and all animals require to have their stables well ventilated to prevent the effects of bad air. Horses are better fed from mangers than racks, and sheep should never have their food so that they draw it from above, as the grass seeds and chaff fall upon and fill their wool, injuring it materially.

It must never be forgotten by the farmer that there are works of charity and kindness, that more frequently press their claims upon him during the winter, than at any other time. While his happy family is clustered around the cheerful hearth; while his table is loaded with the bounties which a kind providence, personal industry, and a fruitful soil have given him; while his wood-house is filled, his granaries overflowing, and every reasonable want supplied; he must not forget there are other less favored individuals or families around; children destitute of fire and wood; widows and orphans distressed and destitute, all requiring care, and not to be forsaken while the frosts of winter are upon the earth. For the poor there must be employment; for the destitute there must be a supply; and the honest and industrious, or the unfortunate poor, have claims on the more fortunate, that may not be disregarded. Well directed charity is one of the few acts of life in which both the giver and the receiver are blessed; let no one then forget the poor.

Every drop of milk should be drained from the udder at each milking, for two reasons, that the last pint taken from the cow will make more butter than the first quart, and that the cows will afterwards fail to give just as much milk as is left in the udder.

Horses should always have plenty of litter in their stables; it answers a double purpose; first by absorbing and retaining the salts of the urine that fall upon it in a considerable degree, and thus rendering the manure more valuable; and secondly, by preventing in part that liability to swell, to which the feet and legs of a horse are subjected when standing on a hard or plank floor.

Negligence and inattention is as inexcusable in the winter as in the summer; and frequently is productive of worse effects. How often do we see farmers suffer such losses in their flocks and herds from sheer inattention or idleness in the winter, that a year of hard labor and privation will hardly place them in their first position. If cattle and horses were looked to as they should be, or if sheep and swine were not left to get their living by hook or by crook, we should not see so many walking skeletons harnessed or yoked to the plow in the spring, or so many carcases around the fields and roads inviting the crows to their feast. The prudent, careful farmer will consider the winter as the trying time for his stock, and by shelter, and sufficient food, avert its rigor, and prevent its consequences as far as possible.

Land and labor are the principal sources of public and private wealth. The more fertility we can impart to the one, and the more intelligence we can infuse into the other, the greater will be the returns they make, and the greater our means of happiness; for it is wealth, rightly employed, that enables us to multiply not only our own, but the comforts and happiness of those around us. Yet it is not a few very rich men, or very wise men, be the aggregate of wealth and talent ever so great, that give prosperity and greatness to a State. It is the general diffusion, among a whole people, among the rank and file of society, of property and knowledge, and the industry, enterprise and independence which they beget, that renders a State truly respectable and great.

Cranberry Culture.—In reply to the inquiry of S. R. S., in the November number of the *Farmer*, I would say, where there is a sod, pare it off to a sufficient depth to remove all grass roots; set the vines, and keep them clean for two or three years; after which they will take care of themselves.

Low swampy lands are best adapted to the cranberry. Nature teaches this, as you seldom, if ever, see them growing on dry land. It should be sufficiently moist to keep the roots well saturated.

I consider the months of May and June the proper time for setting. They should be set in drills from eighteen to twenty inches apart; all long vines covered every six or eight inches. Wild vines, if they produce well, and the fruit of a good quality, will answer every purpose. I have been east this fall, and saw large meadows which have been transplanted, which are doing well and bearing large quantities of fruit. I find it profitable to grow cranberries.—N. Hill, *Caton, Steuben Co., N. Y.*

PROGRESSED PUMPKIN PRODUCED BY PROF. PUFF'S PATENT PRIMARIES.

THERE are always some people who easily tell
About monstrous vegetation;
And their corn or their pumpkins—their inside or shell—
Surpass all the rest of creation.

We were noticing statements, last week and before,
Of a turnip, too big to be eaten,—
Of potatoes, two bushels at least to each hill,—
And of beets, not at all to be beaten.

We are always unwilling to publish a puff,
As such fellows are trying to blow it;
But we thought that for once we would give them enough,
With the help of our artist and poet.

And we now have decided to tell a great yarn—
One awful exaggeration,—
And our artist has drawn it as big as a barn—
"Some pumpkins" above the whole nation.

We persuaded our poet the falsehood to tell
Of a pumpkin full fifteen feet through,
Which it took two oxen, one horse, and one mule,
To remove from the field where it grew.

Our poet remembers: it was last September—
And the facts (?) in his mem'ry are clinging—
The oxen were drawing, the boys were hurrahing,
And this is the song they were singing:

"Hail to the nitrogen, phosphorus, oxygen!
Furnishing all the components required,
Rendering soils most completely adapted
To raising such pumpkins as *must* be admired.

"Professor PUFF has a most capital warehouse,
For selling new patents, and fixing old soils:
It was there that I bought the ingredients I sought;
And I now raise "some pumpkins" without any toils.

"The seed is for sale at Professor PUFF's warehouse—
The Patent Progressive Primarius seed.
Send for a circular: get the certificates.
The thing is discovered which all farmers need.

"All crops, at all seasons, without rhyme or reason,
Will grow, if you only Professor PUFF try:
Ammonia, guano, and other progressives,
Will do the thing up, if you only will buy.

"I can truly advise that friend PUFF analyze
The soil of each farm, and find out what it needs,
For twenty-five dollars; a good letter follows,
Telling how the good farmer completely succeeds.

"His salt and lime mixture is a most complete fixture,
Converting the peat into chloride of lime:
The sugar-scum refuse made up into phosphate—
Nitrogenous phosphate—is something sublime.

"Sublime or ridiculous, how he does tickle us!
Enrichers phosphatic will do the thing clean:
Of potash progressive, the fruits are excessive,
And need GIBBS's rotary digging machine.

"Long may Columbia raise, without number,
The fruits of improved superphosphate of lime;
Its products extreme will hold up to esteem
Professor PUFF's name to the end of all time."

DESIGN FOR A SMALL FARM-HOUSE AND BARN.

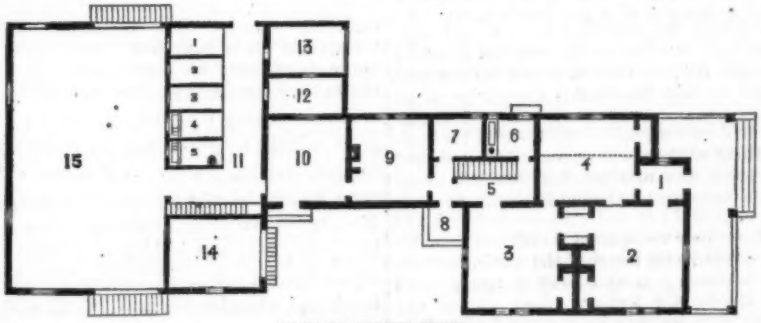
DESIGN FOR A SMALL FARM-HOUSE AND BARN.

We have great pleasure in presenting the readers of the *Genese Farmer* another of Mr. HARNEY's beautiful designs. It is intended to afford complete accommodation for a small New England farm—say from 15 to 20 acres in extent. The following is Mr. HARNEY's description:

The plan comprises house and barn, with wood-shed and pig-sty all connected in one range, and having sheltered communication.

No. 1, is the front entry, 6 feet square; it opens into the parlor, No. 2, 14 feet by 15, and into a bed-room, No. 4, 12 feet by 15. No. 3, is the kitchen, 14 feet by 15, opening into the bed-room, back entry, and through a passage into the parlor. No. 5, is the back entry, 6 feet by 16, containing stairs to cellar and chambers. No. 6, is a pantry, 5 feet 6 inches by 8 feet, opening into the yard. No. 7, is a store-room, and No. 9, a scullery or back kitchen, 12 feet square. No. 8, is a porch over the rear entrance. No. 10, is a wood-shed, connecting directly with the barn.

The barn is 40 feet square, and contains two



PLAN OF GROUND FLOOR.

horse and three cow stalls, No. 11, with a passage behind, and an opening to throw manure into the pig-sty, No. 13. No. 14 is a carriage room, with double doors, opening into the yard, and No. 15 barn room for storage, 24 feet by 39. Room for hay is in the second story, which is well ventilated at the top. The stairs of the hay-loft are at the side of the carriage room, and under them is the harness closet.

The second story of the house contains three bed-rooms, with a large closet to each, besides a large clothes' press in the entry.

CONSTRUCTION.—This design may be built of wood, and covered either in the vertical and battened manner, or in the horizontal manner, with narrow clapboards—the usual New England style.

The lower story windows, with the exception of the one in front, are all mullioned windows,

shielded by hoods supported on brackets. The dotted line on the plan represents the division between the main body of the house and the one-story addition.

Cost.—This range of building could be built for about $1500. G. E. HARNEY.

Lynn, Mass.

ON THE IMPORTANCE TO FARMERS OF A GOOD EDUCATION.

Eds. Genesee Farmer:—I consider the great want of farmers at the present time to be a good education. The importance of, this will hardly be questioned. Very few farmers have enjoyed the advantages necessary to qualify themselves thoroughly for their occupation. A few years ago, the public opinion on this matter was quite different from what it is now. Still, there are some who need a little waking up on the subject. There was a time when it was thought that a farmer needed only a pair of hands and strength to use them—the head being of little consequence. While the boy who was intended for a mechanic, a merchant or a lawyer, was sent to school, and allowed every opportunity for improvement; the one designed for a farmer was kept at home at some kind of drudgery. *He* needed only to know how to *work*. That was to be the business of *his* life, and what need was there for *him* to learn grammar, or algebra, or geometry, or philosophy? In this way his self-respect and respect for his occupation were destroyed. He was never encouraged to think. It was enough for him to know that his father did so and so, and he was to do likewise and ask no questions. Is it any wonder that he should make a dull man and a "bungling farmer?"

Now what I want to say to the farmers of this country is this: Whatever else you fail to do, don't fail to give your boys a good education, and especially those that are to become farmers. Take some good agricultural paper, and give your boys time to read it, as well as some time for amusement, remembering that "all work and no play make Jack a dull boy." Let them know that a true farmer is as much of a gentleman as the lawyer or the doctor, and *sometimes* more so, although his clothes may not be so fine, nor his hands so soft. Do not suppose that because your son is to be a farmer, he does not need a knowledge of all that is taught in our common schools and academies. If he does not need to use them in his business, the study of them will improve his mind, and not only teach him to think, but to think methodically and correctly; and what is of quite as much importance, he will not feel that he is inferior to his neighbor whose occupation is different from his own. It would be far better if the choice were to be made between a good education and a good farm, to choose the former. Now almost any farmer can give his sons each a good education, while few can give the farms. Let them have the education at any rate, and the farm, if you can, besides. E. L.

To raise Cream.—Have ready two pans in boiling water, and on the milk's coming to the dairy, take the hot pans out of the water, put the milk into one of them, and cover with the other. This will occasion great augmentation in the thickness and quality of the cream.

SETTING FENCE POSTS.

Eds. Genesee Farmer:—In the January number of the *Farmer* for 1859, E. Morton, of Berrien Co., Ohio, inquires whether fence posts will last longer by being set in the ground top end down. As no one has deigned to answer him, unless an article published, I think, in the March number was intended as an answer. I will give him my experience.

The author of the article in the March number scouts the idea of using wood posts at any rate, and advises the use of *burnt clay* posts. Now this may be an improved sort of post, but there are several farmers, if not more, in our extended country, who are not so situated that they can procure such posts, and must of necessity use wood.

But to my experience. About thirty years ago, I, to test the thing, split two bar posts, side by side, out of a chestnut log. They were eight feet long, eight inches wide, and three thick. One I set butt down, the other top down. At the end of ten years, the one set in butt down was rotted off, and I re-set it in the same hole. At the end of six years, it was rotted off again, and I put in a new one. The other lasted four years longer, when it got split in two, and I took it out and it was about two-thirds rotted off. Sixteen years ago, I set six pairs of bar posts, all split out of the butt cut of the same white oak log. One pair I set butts down, another pair, one butt down, the other top down; the others top down. Four years ago, those set butt down were all rotted off, and had to be replaced by new ones. This summer I had occasion to re-set those that were set top down. I found them all sound enough to re-set. My experiments have convinced me that the best way is to set them tops down. WM. HOWE.

North Almond, N. Y.

A Fast People.—At a late agricultural show in England, an American exhibited a fast-trotting American horse, which cantered and trotted remarkably well, but which was a bad walker. A person looking on, after having admired the trotting and cantering, asked, "How about the walking?"—"Walking?" said Jonathan, "well, really I don't know about that; we are not so *slow* in the States as to notice that."—*American Agriculturist.*

This is all very well and very witty; but it is a great mistake for *farmers* to pay so little attention to good walking horses. A good *walker* is worth more, for general farm purposes, than a good trotter. We were once with an English gentleman, an excellent judge, who was looking at a horse that was offered him for sale; and the man who showed the horse kept whipping him and jerking at the halter to make him prance and look lively. "Let him walk, man, let him walk," cried our friend, "I want a horse that can walk."

To divest milk and butter of the taste of turnips.—Put into each pail of milk, when fresh drawn from the cows, one pint of boiling water. The heat of the water dispels the odor of the turnip, which becomes volatile as the temperature of the milk is increased.

PROSPECTS OF FRUIT CULTURE.

We are happy to record, at the commencement of this new year, the satisfactory condition, generally, of fruit plantations, and the animated hopes of those engaged in fruit culture. The spirit of horticulture progresses steadily and with accelerating rapidity, among all classes of society. Its practical operations and results are so attractive as to claim the spare moments of the artizan, the merchant, and the professional man, and engross the leisure hours of the man of wealth; while to all those engaged directly in the cultivation of the soil, horticulture is fast insinuating itself to a first rank in attention and importance. Its phases and its phenomena are so varied, and afford so large and free a scope for investigation, for speculative theories and pleasant imaginations, as to make it preëminent among all pursuits as a source of mental gratification. The increased attention which is now bestowed upon fruit culture, is a result produced by the actual success which, from year to year, has attended it.

As a branch of business, in very many localities throughout the country, fruit culture is attracting a large amount of capital and skill. Particular sections are found to be peculiarly adapted to certain classes and varieties of fruit, and the amount of information which has already been gained on this subject enables the planter to proceed with much confidence of final success.

Perhaps no fruit varies more with various soils and climates than the Apple; and in the range of the United States, a vast number of varieties are required to supply the particular wants of all sections. Many new sorts have been produced, and are constantly appearing, which prove themselves eminently superior as local fruits. Agricultural and horticultural societies also are doing much to promote this end; and whoever now engages in fruit culture, in any part of the country, need not go to work altogether in the dark.

The orchard planting of Apple and Pear trees in the Eastern, Middle and Western States increases rapidly from year to year—the present year especially, the agricultural community seem to have determined to take hold of fruit culture in earnest. The Dwarf Pear controversy, which was carried on during the early part of the season, no doubt attracted the attention of many to this interesting class of trees, who had never before investigated their claims. The requirements of these dwarf trees and the causes of their failure, are beginning to be better understood; the result of which, together with the ample evidences these trees, themselves, afford of their value, has been to induce the planting of large orchards of them.

It is surprising, in the present state of horticultural knowledge, that the subject of which we are now speaking should have caused such hot discussions and expressions of irritated feelings among those who should have been first to explain the apparent contradictory results of Dwarf Pear culture. The failures that have resulted with Dwarf Pear trees should have been anticipated; and now, as we look back, we are surprised that intelligent men could have so entirely overlooked the casualties to which all fruit trees are subject, such as improper propagation, wrong selection of varieties, unsuitable soil, etc., as to have thought of universal and complete success with Dwarf Pear trees, or have been disappointed by reports of unsuccessful results. As a people, like the French, we are too sanguine, and apt to run into extremes; and this characteristic we have fully exemplified in the subject under consideration.

The medium course to be pursued in this branch of horticulture, has happily been found, and that with results gratifying and encouraging, and we shall expect to see numerous thrifty and valuable orchards of these trees amply remunerating the labor of the skilful cultivator. The planting of Pear trees worked on pear stock, or as commonly called standard trees, is rapidly progressing. The Pear tree is found to be well suited to a large range of country, and many of the most valuable sorts come early into bearing. The almost fabulous prices which good pears command, are a tempting inducement to extensive culture; and the demand for these trees at the nurseries is very great.

The Peach crop of Western New York failed again last season, being the second of two consecutive years. The trees, however, are now in perfect health, and if the present winter should be one of comparatively low temperature, we shall undoubtedly have a good crop next autumn. The cause of the death of the buds, is not the extreme cold directly, but the sudden alternations from mild

weather to great cold. It may be that the skill of the cultivator can never provide adequate means to counterbalance or materially modify these vicissitudes of climate; and if so, we shall be compelled to regard the peach as a precarious fruit in this section. This point, however, we are not prepared to admit; but, on the contrary, firmly believe that the intelligence and enterprise of our fruit growers will provide means for the mitigation of these climatic influences, even if they should continue as during the two past winters. It may be well, perhaps, for amateurs to undertake to grow peach trees on walls or trellises, where they can more conveniently afford them protection during their dormant state. Numerous examples that have come under our observation fully justify us in the conclusion that the peach, grown in this way, will yield regular crops.

The interest in the cultivation of the Grape continues unabated, and the great claims which this fruit has, for extensive culture, are becoming fully recognized. Never did fruit-growers take in hand anything which promised more munificent results. Our country, from end to end, with few exceptions, is well adapted to the perfect growth of the various sorts of this most delicous of all fruits. The grape is the fruit for the million. The smallest space of land will allow of its culture; and every village and even city house may have a vine, trained up its sunny side. With little care, the surplus crop may be preserved fresh during the whole winter, or cheaply manufactured into a pure beverage, to take the place of the noxious compounds, everywhere vended as imported wines.

The vineyard, in the Middle and Western, as well as throughout the Southern States, is destined to become one of the most important of agricultural interests. During the past year, the value of some of the more prominent of the new hardy grapes has been fully confirmed, and we have no doubt that, in a few years, the varieties which are now largely in cultivation will be superseded by better and more profitable sorts. Of the characteristics of these new sorts, we do not now propose to speak, as this information has been laid before our readers, in our past volumes, and everything of interest will be brought to notice in future.

We will take this occasion to caution our readers against an imposition which is being practiced by some unprincipled scoundrels, by taking wild vines from the woods, or other worthless sorts, and packing them nicely, and labelling with the names of some of the valuable new kinds, and offering them for sale, in this manner, about the country. The vines, being large and strong, are temptingly offered, even at high rates, and the purchaser may anticipate in blissful ignorance, until his first crop of fruit, when he will learn to his sorrow the innocent part he has played in the game.

Of the diseases and enemies of fruit trees, there is little that is new to be said. Fruit-growers are constantly showing that most of these evils can, by skill and attention, be either wholly averted, or their effects so modified as to give little cause for serious apprehension. Even the curculio, about whose mischievous habits so much has been said and written, it has been shown may be kept under control by the well-known practice of jarring, so that any one who is well situated for soil and market, need not hesitate to engage extensively in the cultivation of Plums. The use of sulphur for the mildew or fungus, which is produced on various fruits, promises to prove an efficient practice. This operation is one which probably will be fully tested during the ensuing summer, and we would here recommend all fruit-growers, who have had to deal with this disease, to have at hand next season, so as to apply at the first warning, either the dry flowers of sulphur, or the preparations which we recommended in the last volume, and which we will here again refer to:

If one pound of flowers of sulphur, and an equal measure of quick lime, are boiled for ten minutes in a glazed earthen-pot, with five pints of water, hyposulphite of lime is formed, which is very soluble. It should be constantly stirred while boiling. It is then allowed to settle, and the clear liquid is, when cool, ready for use, after being mixed with one hundred parts of water. The vines are syringed with this water This is effectual, economical, and easily applied on a large scale.

This hyposulphite of lime may easily be obtained by leaching the refuse lime of the gas-works. The hyposulphite is very soluble, and the less water used for the purpose the better, in order to avoid dissolving other substances. It should afterward be largely diluted with water, and applied with the syringe, as before recommended.

If seven pounds of sulphur and one pound of lime are boiled in water for several hours, pentasulphuret of calcium is formed. This substance contains about eighty per cent. of sulphur, and is quite soluble in water. We have never seen it recommended for mildew, but think it eminently worthy of trial. It is the sulphur, and not the lime, that is the effective agent; and the less of the latter in proportion to the former the better. The pentasulphuret of calcium contains more than *ten times* as much sulphur, in proportion to the lime, as the hyposulphite of lime. It approximates closely to a solution of sulphur.

Never beg fruit, or anything else you can produce by the expenditure of a little time or labor. It is as reasonable to expect a man to give away the products of his wheat field, as of his orchard or fruit garden.

THE BARTLETT PEAR.

We here present an engraving of a standard *Bartlett* Pear tree, growing in the grounds of Mr. Joseph Hall, near this city. It was planted about twelve years ago. The fourth year after planting, it bore a bushel of fine fruit, and for the last five or six years it has borne at least a barrel each year. The fruit has been sold for $10 a barrel. The tree has received no extra care or cultivation. It grows on a lawn. It has been winter pruned, the branches being shortened in sufficient to keep the tree in good shape. The fruit is of good size and quality, though, of course, not equal in these respects to that grown on dwarf trees that receive good cultivation.

STANDARD PEAR TREE — BARTLETT.

The *Bartlett* pear originated in Berkshire, Eng., about the year 1770. It was afterward propagated by a London fruit-grower of the name of Williams, and was called *Williams Bon Chrétian*. It was introduced into this country in 1799, by Enoch Bartlett, of Dorchester, Mass., and hence is universally known in America as the *Bartlett* pear. Downing says: "It suits our climate admirably, ripening better here than in England, and has the unusual property of maturing perfectly in the house, even if picked before it is full grown. It has no competitor as a summer market fruit."

Labels for Fruit Trees.—At the nurseries of André Leroy, in France, they use a label made of earthen ware, stamped, before baking, with the name of the fruit, and having a hole in one end through which to pass the wire for attaching it to the tree or plant.

ENGLISH HAWTHORN HEDGES.

We make the following extracts from an able article on "fences" in Morton's *Cyclopedia of Agriculture:*

Before we enter upon the subject, we deem it desirable to call the serious attention of parties to the important practice of previously preparing the soil on which the hedge is to be planted for a permanent fence. Independently of the pleasure every one must experience on seeing a fine, healthy, thriving, young fence, there is another advantage in favor of well prepared ground, which is the saving of two or three years' dead fencing for the protection of the hedge. This, in some localities, where the materials are scarce, forms an item worthy of consideration.

The fact is, with good plants, success or failure almost entirely depends on the preparation of the soil, and the future removal of weeds, as fast as they appear, for the first four or five years.

The plan which we have found best for general purposes, is to trench the ground, where the soil will admit of it, two spits deep, and three or four feet wide, along the site of the intended hedge. Then add a coat of well-rotted fold-yard manure, and slightly fork it in. This should be done some time before planting. For agricultural purposes, we recommend new fences to be planted in straight lines. When the time of planting arrives, set out the site of the fence in a straight line, by sticking some stakes into the ground about twenty yards apart, one foot from which, on the side where the ditch is intended to be made, stretch a line, and, with a sharp spade, cut out one side of the ditch. Measure off the width of the intended ditch, and cut out the other side. Then take off the top spit in squares, about six inches deep, if the ground be in pasture, and turn it upside down on the space left between the inner edge of the ditch and the stakes which mark the line of quick. This soil will form a support to the plants when put in.

Now make a furrow, three inches deep, in a line with the stakes, just at the inner side of the sod or soil, in which to insert the roots of the quick. In the annexed diagram, fig. 1, *a* represents the soil that has been trenched and manured; *b*, the soil or

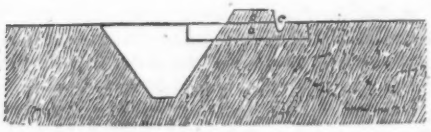


Fig. 1.

sod, takes from the surface of the intended ditch, turned upside down on the edge of the land which has been trenched; and *c*, the furrow in which the plants are inserted.

Prepare the plants by cutting off the tops with a sharp knife, two or three inches above the mark of the soil, which is easily perceived by the light green appearance on the stem. Shorten the tap roots, or any roots that may have been mutilated by the removal, but do not cut away any of the fibres. The plants must then be placed in the trench at equal distances, six inches apart, without using force or pressure to squeeze in the roots. Draw the soil which has been trenched and manured, to the roots, to keep them in their assigned places. Then dig out another spit of the top soil from the site of the intended ditch, break it well to pieces, and level it to the stems of the plants, and tread it firm. The remainder of the soil that is taken out of the ditch is to be levelled in behind the hedge on the field side of the fence, or carted away.

As example is better than precept, we deem it desirable to give our own practice in the cases where we have been invariably successful in obtaining a good and useful hedge.

We have stated that, on naturally dry soil, there is no necessity for a ditch for the purpose of taking off the surface water; and experience shows us that a ditch is not required merely as an assistant to the hedge, or as a secondary fence. On all soils that are not visited with a surplus of stagnant water, the quicks should be planted on the level surface, if there is sufficient depth of soil for the purpose; but where the soil is thin, and greater depth is required, the mould should be turned over from off the place where it has been usual to put a ditch, on to the place where it is intended to plant

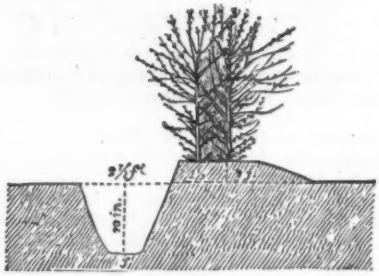


Fig. 2.

the hedge. The quicks may be planted on the surface, or on a double depth of surface soil where needed, without making ditches and banks. In places where ditches are really necessary, the rubble stones and clay from the bottom of them should never be made use of to pile up a bank on which to plant a hedge. The nature of the soil is sometimes such as to require ditches to be made, and sunk deep into a worthless subsoil; in such cases, if no other means are practical of getting rid of the untempered clay, stones, &c., they should be buried behind the hedge.

The dimensions of the ditch and fence, fig. 1, will be ascertained by a comparison of the figure with the scale on which it is drawn, being three feet one-third in the inch. The quicks were planted in March, 1843, in two rows on the bank, after the top sod from the ditch had been cut out and turned over on the sward of the field; these rows were planted nine inches apart, and the separate plants were six inches asunder in the rows. They were trimmed and cut back, and when planted, they projected about an inch from the surface. The fence, in 1845, was four feet high, and spread over a space three feet six inches in width, at two-thirds of its height from the surface. A dead hedge was made by the side of the ditch in the pasture field, to protect the quicks from stock; which was dispensed with in the spring of 1850, the young hedge now being strong enough to retain any kind of stock. This is on dry soil, of good quality; and it is only on such soils that this plan may be expected to answer well. We have succeeded with a single row of quicks equally as well, but not in so short a time.

HELIOTROPES AND THEIR CULTURE

These are very important adjuncts of the plant-house in winter; indeed, indispensable. The best kinds for winter work that I have met with are, *paniculatum*, *Beauty of the Boudoir*, *Souvenir de Leige*, and *Gem*. For winter blossoming, these are valuable, and their culture very simple.

They should be propagated annually, by cuttings, taken in August and put into equal parts sand and loam, and placed in a spent cucumber frame, and kept close and shaded until they strike root, and then gradually hardened off. When frost makes its appearance, they should be taken in doors and placed in the coolest part of the green-house until February, when they may be potted off into No. 1 pots, the strongest plants selected for next winter's blooming, and the others kept for the flower garden in the summer. (*Gem* makes the best bedder.) Plants for next winter's blooming should receive high culture in the green-house or frame.

In order to render them bushy, they must be frequently pinched; and this pinching may be continued up to the end of June, when they may be allowed to form heads for blossoming. They may be flowered in seven-inch pots in perfection, although it is very convenient to have a lot in five-inch pots also.

By the first of June they should be placed out of doors, in a very sunny situation, as they abhor shade; and all they require during the summer is regular watering.

Those intended to be grown as standards, should have their strongest stems selected and tied to a stake, and all the eyes pinched out, until the de-

HELIOTROPIUM PANICULATUM.

sired height is reached, and then the top may be pinched off, and four or five eyes allowed to grow at the top. When they are five inches long, they should be pinched as directed for the others. The engraving above shows one grown in this way. *Paniculatum* is the best for this mode of growing, and likewise for covering the back walls of greenhouses.

For compost to grow them, nothing is so good as a plain, strong loam. This, with sound drainage, will be found to grow them shorter jointed, and more compact, and will enable them to withstand an hour or two of drought without suffering.

In all their stages, they require full exposure to sunshine, and, when approaching the blooming condition, simply a cool and airy situation in the house.

REPEATED TRANSPLANTING retards the growth of wood, and produces premature maturity in the plant—it converts, for want of abundant nourishment, wood buds into fruit buds. It is calculated to produce early bearing. Frequent transplanting is often resorted to by the florist, in order to induce plants to produce flowers, or to produce an abundance of flowers, and it is found highly efficacious in the balsam, coxcomb, &c.

SMITH'S SPRUCE FIR.

SMITH'S, or the Himalayan, Spruce Fir, (*Abies Smithiana*) is a native of Kamaon and Simore, and, according to Prof. DON, it is chiefly distinguished from *A. orientalis*, a nearly related species from Armenia and Georgia, by its more compressed and slender leaves, and by its larger cones, with broader scales. It was first introduced into England from the East Indies in 1818. Its rate of growth, in British gardens, is nearly or quite equal to the common spruce. LOUDON says, "there can be little or no doubt that this tree is as hardy in the climate of Britain as the common spruce; and, as it is unquestionably more ornamental, it well deserves a place in every collection." H. SARGEANT, Esq., of Fishkill Landing, reports the *Abies Smithiana* hardy in the shade at Fishkill, Boston, and New Jersey; very hardy at Newport, R. I.; hardy at Flushing, Long Island, Washington, and Cincinnati; loses its leader in Philadelphia; tender in Clinton, N. Y., and Columbus, Ohio; suffers in Natchez, Miss. It is one of the most beautiful of evergreens, and when hardy, should have a place in the smallest collections.

SMITH'S SPRUCE FIR.

The annexed cut will give an idea of the habit of this tree. It resembles somewhat the Norway spruce, but the foliage is of a lighter green, more densely set on the branches, and more gracefully pendulous.

THERE is perhaps nothing better to protect grape vines in winter than hemlock boughs.

THE WEEPING MOUNTAIN ELM.

THE WEEPING MOUNTAIN ELM.

Above we give a cut of a fine specimen of the Weeping Mountain Elm (*Ulmus montana pendula*) sixteen feet high and four inches diameter. Loudon's *Arboretum et Fruticetum Britannicum* says: "This is a beautiful highly characteristic tree, generally growing to one side, spreading its branches in a fan-like manner, and stretching them out sometimes horizontally, and at other times almost perpendicularly downwards, so that the head of the tree exhibits great variety of shape. By some, this variety is considered to belong to an American species of elm; but from its large rough leaves, its vigorous young wood and large buds, and, above all, from its flowering at the same time as *U. montana*, and, like it, ripening abundance of seeds, which no American elm whatever does in Europe, we have not a doubt that it is a variety of *U. montana*. For particular situations in artificial scenery it is admirably adapted, for example, for attracting the eye, and fixing it, in order to draw it away from some object which can not be concealed, but which it is not desirable should attract notice."

THE REBECCA GRAPE.

Col. Freas, of the *Germantown Telegraph* (Philadelphia, Pa.,) says:

"We are satisfied of one thing in regard to this grape, from what has been gathered of its nature and habits the past two seasons, which may be worth communicating. This is, that a southern exposure to the hot sun of summer is too severe for it, and that it requires an opposite exposure, with shade half the day. The best Rebecca grapes we ever saw were raised in this place, in common, low garden soil, with no more preparation than that for cabbages, and the vine was in the most flourishing condition. But we have one or two other instances where the same result has followed the same exposure; and we commend the fact to all who have cultivated this grape without success."

There is a Rebecca grape vine in the grounds of H. E. Hooker & Co., of this city, trained on the south side of a building, which confirms the observation of Col. Freas. The leaves have a tendency to blister, and the vine is consequently not as thrifty as might be expected from the rapid growth of the young vines in the propagating house. It would seem to require a less sunny exposure.

SHADE TREES, &c.

There are few objects in the vegetable world really more interesting and beautiful than our noble forest trees. No country on earth is more blessed than ours; and none can boast of such a variety of magnificent shade trees.

He only who has a knowledge of trees and plants, and who has learned to appreciate their beauties, can enjoy the pleasures of the country. People who have not seen our native trees in open airy situations, under good, careful culture, know nothing of their real beauties. An Elm, or a Tulip tree, crowded up in a thicket, with a tall, naked trunk, thirty or forty feet high, and a mere tuft of leaves at the summit, is a totally different object from the same tree standing on a lawn, with a finely developed form, and luxuriant foliage. Trees, like men, and more than men, show culture and care in the training.

The Elm, with its wide spreading and gracefully drooping branches, is one of the most elegant of forest trees. The Oak has always been held as the emblem of majesty and strength. It is one of the most magnificent, as it is one of the longest lived of the forest tribes, and its timber is valuable for its strength and durability. The Beech tree is truly a fine tree, and were it not so common, its noble appearance would be more generally appreciated.

What tree can be more beautiful than our Horse Chestnut, with its large and glossy foliage, and graceful cluster of flowers; or the Scarlet Maple, with its bright and early blossoms and silvery foliage; or the Shad-blow lighting up the woods with its flowers of snowy whiteness; or the Azalias, that will set the hills in a blaze of bloom; or the Kalmia, with its trumpet-like flowers; or the Mountain Ash, with its flowers in spring and its scarlet fruit in autumn; or the Locust, with its fragrant pink blossoms? Then our noble White Pine, Hemlock, Balsams and Spruce, Hickory, Butternut, and Black Walnut, &c. Why neglect such treasures, and seek for foreign species, not half so grand and beautiful? We would by no means discourage the introduction and planting of rare and fine exotics: they should be mixed with our native trees to give the plantation an air of keeping and cultivation.

There is, we are happy to say, a great taste growing up throughout our country, and especially around cities and villages, for planting shade and ornamental trees. Thousands and thousands of dollars are annually expended in ornamental planting, and whilst rare and costly exotics are gathered from all parts of the world, our own beautiful trees are neglected.

How much might be added to the appearance of many, indeed, of most of our farms and country residences, if proper attention were paid to the planting of shade trees in their appropriate places. Nothing, in our estimation, contributes so much to the pleasantness of a place as the presence of fine trees, and surely no luxury of half the value can be procured for the same price. The cost of procuring and planting a shade tree is so trifling, that on this score at least, there is no excuse for the frequent omissions of duty in this respect. We say duty, because the planting of trees, particularly fruit trees, is obligatory upon every one who has enjoyed the labors of his predecessors in the same direction. Every generation is to a great extent dependent upon the one which precedes it, for its supply of fruit and shade. But there is another light in which the planting of fruit and shade trees may be regarded as a duty. The decrease of insectivorous birds, and the consequent alarming increase of destructive insects is in a great measure attributable to the fact that one by one, the trees that offered a refuge have been cut away, and these useful little fellows, properly indignant not only at this decided want of taste, but total disregard of their comfort, have taken up their abode in other sections, never to return until their favorite haunts —trees—are returned to them. Handsome fruit and ornamental trees judiciously planted not only advance the beauty but add greatly to the value of farms.

C. N. BEMENT.

Springside, December, 1859.

Ladies' Department.

HINTS TO HOUSEWIVES.

Vessels intended to contain liquid of a higher temperature than the surrounding medium, and to keep that liquid as long as possible at the highest temperature, should be constructed of materials which are the worst radiators of heat. Thus, tea urns and tea pots are best adapted for their purpose when constructed of polished metal, and worst when constructed of black porcelain. A black porcelain tea pot is the worst conceivable material for that vessel, for both its materials and color are good radiators of heat, and the liquid contained in it cools with the greatest possible rapidity. On the other hand, a bright metal tea-pot is best adapted for the purpose, because it is the worst radiator of heat, and therefore cools as slowly as possible. A polished silver or brass tea urn is better adapted to retain the heat of the water, than one of a dull brown color, such as is most commonly used. A tin kettle retains the heat of water boiled in it more effectually if it be kept clean and polished, than if it be allowed to collect the smoke and soot to which it is exposed from the action of the fire. When coated with this, its surface becomes rough and black, and is a powerful radiator of heat. A set of polished fire irons may remain for a long time in front of a hot fire, without receiving from it any increase of temperature beyond that of the chamber, because the heat radiated by the fire is all reflected by the polished surface of the irons, and none of it is absorbed; but if a set of rough, unpolished irons were similarly placed, they would become speedily so hot, that they could not be used without inconvenience. The polish of the fire irons is, therefore, not merely a matter of ornament, but of use and convenience. The rough, unpolished poker, sometimes used in a kitchen, becomes speedily so hot that it can not be held without pain. A close stove, intended to warm apartments, should not have a polished surface, for in that case it is one of the worst radiators of heat, and nothing could be contrived less fit for the purpose to which it is applied. On the other hand, a rough, unpolished surface of cast iron, is favorable to radiation, and a fire in such a stove will always produce a most powerful effect.—*Dr. Lardner on Heat.*

New Advertisements this Month.

Improved Prairie Land for Sale—W. H. Gardner, Leland, Ill.
Stock or Dairy Farm for Sale—P. V., Perrysburgh, N. Y.
Descriptive Seed Catalogue—J. M. Thorburn & Co., New York.
Seeds at Wholesale—J. M. Thorburn & Co., New York.
Rural Empire Club—I. W. Briggs, West Macedon, N. Y.
Hungarian Grape Slips—John Kolber, New York.
Portemer Fils, Nurseryman, Gentilly, France—Paul Bossange, agent, New York.
American Stock Journal—D. C. Linsley, New York.
Seeds of Evergreen Trees and Shrubs—J. M. Thorburn & Co., New York.
A Complete Grist Mill for $90—Hedges, Free, & Co., Cincinnati, Ohio.
Grace Greenwood's Little Pilgrim—Leander K. Lippincott, Philadelphia, Pa.

On his *Thirtieth Birthday*, kind reader, the Genesee Farmer comes to you with our warmest "compliments of the season." He needs no formal introduction. We trust he will be recognized and treated as an old friend. Give him a good country welcome. Take him round and show him to your neighbors and friends. He likes the society of intelligent farmers and fruit-growers. He is especially fond of *boys*, and is particularly flattered when the *ladies* show him any attention. If you are going anywhere on a visit, or on business, take him along and introduce him; and if any one manifests a wish for further acquaintance, *send us their names.*

Whatever kindness you may be able to show him, we shall esteem as a personal favor.

Notes on the Weather from November 15th to December 16th, 1859.—Heat, or calorić, is the mighty power that makes the climate and the weather. Let all caloric be removed or annihilated, and the earth would be a dead waste, an awful desolation. Let it cease to produce changes in the atmosphere, or on the earth or its waters, in evaporation from land and sea, in rains and snows and dews and winds, all life would stagnate, and the pulse beat no longer, all would be desolation. The weather would be ever uniform, and find none to wonder or to complain at its changes.

The heat of the last half of November, exceeded the average for 22 years by nearly 5°, while the month was 3° above the mean. The first was 39.1°, and for the month 40.7°. The rain of the month was 1.93 inch, or about half the average.

The Indian summer was for 9 days in the first half, and about 7 days in the last half. Very little snow fell in the month. A violent gale from the west commenced on the 25th at Chicago, about 5 P. M., at Buffalo at 8 P. M., and at Rochester at 11 P. M., and swept onward to the Atlantic. In the three places the wind was heavy, and damage done at the west. Here it was strong through the night, and also over Lake Ontario. The month was warm at its close, and the canal was not frozen yet from Albany to Buffalo.

The hottest day in the last half was the 18th, 65° at noon, and 55.7° for the day; the coldest was the 24th, 29° at noon, and 27.7° for the day. The cold of the 20th was more severe at the west and south. So the cold of the 14th was far more severe on the 12th in Nebraska Territory, being then, on Deer Creek, north of Fort Laramie, several degrees below zero, and moving eastward.

For the first half of December, we find different weather. Though the last week of November was warm, and the 1st day of December was warmer yet, the 2d became cool, and the next colder yet, and a still colder period on the 8th, 9th, and 10th, the thermometer falling to 10° here, and below zero on the 7th at Chicago; the west again showing the most severe weather. On the 13th our cold was 3° with four inches of snow, and tolerable sleighing from the 11th. At Montreal on the 11th, the cold was 10° below zero, and good sleighing for several days previous.

The average of the first half by thermometer, is 25.1° which is 6° below the mean for 22 years, and gives us, for so much of December, a season unusually cold. The canal was free of ice till the 3d, and was fully frozen and closed on the 7th.

The average heat of 1859 for 11 months, is a little above the mean for 22 years. The months which had their temperature below the average, are April, June, July, September and October. Frost has occurred in every month of the eleven. Though much injury was done by it to the crops in June, the evil is not so great as was feared. If the insect, which destroys wheat, was killed by it, as seems very probable, immense advantage has been gained. Except in hay, the average yield has been realized, and in many fruits a large product has resulted. On the whole, the seasons have been favorable for the products of agriculture.

Weather in Illinois.—The month of November has been about as usual in past seasons, with the exception of being not quite as warm as in past years. The month stands at 35.16°, being over 3° colder than the usual average. The first half gives 39° as the mean. From the 3d to the 8th was very smoky—the smoke of the 7th and 8th was so dense that objects could not be designated at half a mile distant—and five days entirely cloudy. The 11th, 12th, and 13th, were cold and stormy, and snow fell to the depth of 3 inches. Thermometer at 12° on the night of the 12th. The last half gave a mean of 31.33°—highest, 46°; lowest, 17°; both of which were on the 28th day of the month. During the month there were eleven days in which there fell either rain or snow; fifteen days entire cloudy; and on the night of the 25th a violent gale, almost, or quite a hurricane in some parts of the State. In Peoria some buildings were unroofed, others blown down; also in Chicago a number of buildings and chimneys were blown down; and in many places in the State light buildings were blown over and some destroyed, fences were laid prostrate, some standing cars were blown off the track, and some loss of life.

The prevailing wind S. W. Amount of cloudiness, 6-10. Observations taken at 7 A. M., 2 P. M., and 9 P. M. Heavy thunder and vivid lightning during the night of the 30th. —E. Babcock, *Marengo, McHenry Co., Ill., Dec.* 1859.

Western New York Fruit-Growers' Society.—The Annual Meeting of the Fruit-Growers' Society of Western New York will be held at the Court House, in Rochester, on Wednesday, 4th of January, 1860.

Receipts.—We send receipts whenever desired; but it is unnecessary. The paper is its own receipt. It is never sent, except to a few personal friends, till paid for. *We never send a bill.*

AGRICULTURAL LECTURES AT YALE COLLEGE.—It is proposed to have what may be termed a great agricultural "protracted meeting" at Yale College during the present winter, to last throughout the whole month of February. The exercises are to consist of lectures by leading reliable men, eminent in the different departments of agriculture, horticulture, stock-raising, etc. About eighty lectures are provided for, each lecture to be followed by conversational exercises, questions to the lecturers, and discussions. The course will commence February 1st. Three lectures will be given each day during the four weeks of the course. Twenty or thirty gentlemen, well known in agriculture, beside the Professors in Yale College, are engaged to take part in the exercises as lecturers, while numerous other eminent agriculturists and horticulturists have expressed their intention to be present and participate in the discussions.

FIRST WEEK—*Science in its relations to Agriculture.*—Chemistry, Prof. S. W. Johnson; Meteorology, Prof. H. Silliman; Entomology, Dr. Asa Fitch; Vegetable Phisiology, Daniel C. Eaton, Esq.

SECOND WEEK—*Horticulture.*—Pomology (in general), Hon. Marshall P. Wilder; Grapes, Dr. C. W. Grant; Berries, R. G. Pardee, Esq.; Fruit Trees, P. Barry, Esq.; Fruits as Farm Crops, Lewis F. Allen, Esq.; Agricultural Chemistry, Prof. S. W. Johnson.

THIRD WEEK—*Agriculture proper.*—Drainage, Hon. H. F. French; Grasses and Irrigation, J. Stanton Gould; Cereals, Joseph Harris; Hops, Tobacco, &c., Prof. Wm. H. Brewer; Cultivation of Light Soils, Levi Bartlett, Esq.; English Agriculture, Luthur H. Tucker, Esq.; Agricultural Statistics, Prof. J. A. Porter.

FOURTH WEEK—*Domestic Animals.*—Principles of Stock Breeding, Hon. Cassius M. Clay; Stock Breeding in the United States, Lewis F. Allen, Esq.; Breeding for the Dairy, Chas. L. Flint, Esq.; Different Breeds of Horses, Sanford Howard, Esq.; Horse Breeding and Training, Dr. D. F. Gulliver; Root Crops and Sheep Husbandry, T. S. Gold, Esq.; Pisciculture, Dr. John C. Comstock; Rural Economy, Donald G. Mitchell.

Other subjects will be presented which it was not convenient to designate in the list. The whole is to be free, except the nominal charge of say ten dollars or less to meet the necessary expenses of lecturers and other incidentals. The occasion will doubtless be one of great interest to cultivators generally, and call together a large attendance from all parts of the country. Circulars giving farther particulars may be obtained on application to Prof. JOHN A. PORTER, New Haven, Conn.

ELIZABETH GRAPE—*Correction.*—In our notice of this new grape last month, the word *found* was substituted for *feared*, in the sentence,—*this plant sprung up, was grown in the house three or four years, as it was* FEARED *that it might not be sufficiently hardy for the climate.* A very wrong impression is conveyed by using the word *found* for *feared*, as above. The vine is as hardy as the *Isabella*.

THERE ARE MANY YOUNG MEN who could not do better than to act as agents for the *Genesee Farmer*. A few days spent in soliciting subscriptions among the neighbors would secure one of our largest Cash Premiums. All that is required is to show them a copy of the paper, and tell them its marvellously low price.

THE JANUARY PREMIUMS.—The time for competing for our January Premiums expires on the fifteenth of January. It will soon be here. Let every one of our friends send in all the subscriptions they can before that time, whether they intend to compete or not. Many have hitherto taken premiums who had no idea of doing so.

The Premiums *will be paid*, whether there is any competition for them or not. Send in the subscriptions as fast as you get them. We will keep an account of the number, and those who send in the twenty-one highest lists by the fifteenth of January, will be awarded the premiums.

Our twelve January premiums in 1858 were taken as follows: A club of 29 took a premium of $5; 31, $6; 33, $7; 34, $8; 36, $9; 38, $10; 40, $11; 43, $12; 56, $13; 63, $14; 91, $15; 107, $20.

The January premiums for 1859 were taken by clubs of 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 49, 55, 60, 70, 74, 83, 97, 107, 116.

A club of 23 took one of the April premiums of last year.

This year there are *twenty-one* Cash premiums, amounting to $235. See last page of this number.

ADVERTISING IN THE GENESEE FARMER.—Messrs. HEDGES, FREE, & Co., of Cincinnati, writes under date of Dec. 10th? "We find your paper a most invaluable medium for communicating with the farming community. We never fail of a hearty response whenever we advertise in it."

This is undoubtedly true, and can not well be otherwise from our large circulation. Our rule of strictly excluding patent medicines and all advertisements of a deceptive character, also renders the *Farmer* one of the best mediums for advertising everything of value and importance to farmers and horticulturists in all parts of the United States and Canada.

SOME of our agents wish us to send the paper on trust. We have no doubt they would pay us; but to comply with their request, would be to violate our invariable rule of requiring pay in advance. Our average profit on a yearly subscription is not more than five cents. If the *Farmer* was a dollar a year, we might afford to keep accounts and send bills, as some other papers do; but we desire to furnish a good and reliable agricultural journal *at the lowest possible price*; and to do so, must adhere to the old rule of advance payment.

THERE is not a town in the United States or Canada where a good list of subscribers could not be obtained for the *Genesee Farmer*. All that is necessary is for some friend to exhibit a copy of the paper. It is so cheap that every farmer can afford to take it, even though they subscribe to several other papers.

THE friends of the *Genesee Farmer* will be glad to hear that its prospects were never so bright as at the present time. We are daily receiving letters assuring us that the *Farmer* never gave better satisfaction than at present. Its marvellously low price commends it to all. We expect a big list of subscribers for 1860.

CHEAP READING.—One volume of the *Genesee Farmer* contains 384 pages, and the *Rural Annual* 120 pages. In clubs of eight, we furnish the *two* for half a dollar. *Five hundred and four pages for fifty cents!* What farmer need be without good reading for himself or his children?

REVIEW OF THE MARKETS.

GENESEE FARMER OFFICE,
ROCHESTER, N. Y., Dec. 14, 1859.

SINCE our last report, there has been a steady and active demand for Flour, and although prices have been somewhat irregular, the sales have been liberal for both local and shipping account. Many transactions of a speculative character have also occurred, which can scarcely be regarded as *sales* in the practical sense of that term; they had, nevertheless, a tendency to enliven the market and sustain prices. The advance since our last quotations, is from ten to thirty cents per barrel, and the market evinces a more steady and continued healthy tone than has been apparent for some time past. The receipts, recently have been on a liberal scale, and the stock is now large. The close of navigation, however, will reduce the receipts to a point which, during the winter, will not, in all probability, exceed the wants of the local trade. And the export demand will doubtless be equivalent to the present accumulation of stock, if the market should continue in a state to encourage it.

Wheat is less active at present than it has been; and notwithstanding the firmness of holders, lower prices have in some instances been accepted. The supply is large; and the slight probability of the next advices from Europe being of a less favorable character, induces operators to act with caution. The receipts of Southern being light, the market is firm for that description, for Red especially. Corn is firm, and in good demand for the home trade and for the Eastern market; the stock is light. Barley and Rye are steady with a good supply and fair demand. Oats are in good demand; but with a large stock, buyers are free from excitement. White Beans are firm, and in good request.

We have on a former occasion expressed a doubt of the estimates, made and published, of the last crop of both wheat and Corn. We still think the product will fall far short of the estimated amount.

There has been a speculative movement manifest in the Pork market, and purchases for future delivery have been made at advanced rates. This feeling has subsided for the present, and the market is dull. Dressed hogs are more freely offered, and the price is higher. Lard is scarce and firm. Beef is in fair demand and good supply. Butter and Cheese are plenty with a moderate inquiry.

The average quality of Beef Cattle offered has been much better of late than heretofore, and the advance in price is equal to the improvement in quality.

The Wool market is quiet but firm; the demand, though limited, is quite equal to the supply.

ROCHESTER MARKET.—Dec. 14.

FLOUR—Market quiet; superfine, $4.75@$5.50; extra, $5.75@$6.50. Buckwheat Flour $2 per 100 lbs.

GRAIN—Wheat inactive; holders are firm and buyers are not willing to concede; white, $1.35@$1.40; red, $1.15@$1.25. Corn, 75c. Oats, 35c@37c. Barley, 58c@60c. Rye, 68c@70. Buckwheat, 50c. White Beans, 65c@70c.

SEEDS—Clover, $5. Timothy, $2.25@$2.50. Flax, $1.35

PROVISIONS—Mess Pork, $17@$18 per bbl. Hams—smoked, 11c. Shoulders do, 9c. Lard, 12c. Butter—fresh, 18c@19c; do firkin, 16c@17c. Cheese, 9c@10c per lb. Eggs, 17c per dozen. Chickens, 6c per lb. Turkies, 8c per lb. Potatoes, 31c@40c. Beef, 3c@6¼c per lb. by the quarter. Mutton, 3c@4c by the carcas. Dressed Hogs are coming forward more freely and are higher; $5.50@$6.25 for light, and $6.50@$7 for heavy.

APPLES—31c@50c per bushel.

CATTLE MARKET—Beef cattle, $3@$4.50, live weight. Sheep, $2.50@$4 each. Lambs, $1.50@$2.25 each.

HIDES—Slaughter, 5c. Calf skins, 10c per lb. Sheep pelts, $1.25@$1.62½ each. Tallow, 7½c.

HAY—$16@$20 per ton.

NEW YORK MARKET.—Dec. 14.

FLOUR AND MEAL—The market for State and Western Flour is less active and lower State superfine, $5.05@$5.15; extra do, $5.25@$5.35; Western superfine, $5.05@$5.15; extra do, $5.25@$5.75; double extra do, $6@$7. Ohio round hoop, $5.60@$5.75. Canadian firm at $5.50@$6.50 for the range of extras. Southern Flour steady. Baltimore superfine, $5.65@$5.80; extra do, $5.85@$6.25. Brandywine, $6@$6 12½. Georgetown, $5.80@$6.50. Petersburg City, $6.35@$7. Richmond City, $6.50@$7.25. Gallego and Haxall, $8. Rye Flour dull at $3.60@$4.50 for fine and superfine. Corn meal lower. Jersey, new, $3.85@$4.10. Brandywine, $4.20. Puncheons, $20.

GRAIN—Wheat, quiet, and holders, to realize, submit to a decline. Milwaukee club, $1.20. Chicago spring, $1.15. Rye less active at 89c@90c. Barley firm at 79c@80c for State; Canada East, 78c@82c; Canada West, 88c. Oats active at 41c@43c for Virginia; 42c@44c for Jersey, Delaware, and Pennsylvania; 46c@47c for State, Western, and Canadian. Corn firm at 58c@59c for new Southern yellow, and 95c@96c for old do. White Beans are firm and in demand at $1.20@1.25. Canadinn Peas, 88c@85c.

SEEDS—Clover, 8c@8¼c per lb. Timothy, $2@$2.25 for mowed, and $2.25@$2.50 for reaped per bushel. Flax, $1.55 for rough American. Red top, $2.50@$2.62½ per five bushel bag.

PROVISIONS—Pork dull. Mess, $16.37½@$16.50; Prime, $11.50. Mess has been sold for future delivery at $17. Beef steady at $5@$5.50 for old and new country mess, and $4@$4.50 for prime do; old repacked Western, $5@$8.50; new do, $9@$10; new extra mess, $10.50@11; double extra do, $11.50@12. Beef hams, $14.50 for Western. Bacon quiet at 9c. Cut meats inactive at 9¾c@10c for pickled hams, and 7c@7¾c for shoulders. Lard firm at 10¾c@11c, and 11¾c for choice lots. Butter—Ohio, 11¾c@18c; State, 14c@22c; Orange County, 25c@28c. Cheese, 8c@11c per lb. Potatoes are plenty. Peachblows, $1.12½@$1.50; Mercers, $1.50@$1.62½; Junes and Western Reds, $1.12½@$1.25 per bbl. Nova Scotia, 45c@50c per bu.

CATTLE MARKET—Beef cattle of first quality, 9½@10c; medium, 7¾c@8c; ordinary, 6c@7c; extra good, 10¼c@10½c per lb. Veal calves 6c@7c per lb. live weight. Sheep and Lambs average about $3.75@$4 per head. Some very extra sell at $8@$11 each. Corn fed Hogs, 5¼c@5¾c per lb. gross.

WOOL—Native Fleece, 40c@65c; pulled, 38c@52c per lb. as to quality.

PHILADELPHIA MARKET.—Dec 12.

FLOUR AND MEAL—Market inactive for Flour. Superfine, $5.25@$5.50; extra and family brands, $5.75@$6.25; fancy, $6.50@$7. Rye Flour scarce at $4.37½; Corn Meal, $3.75 for Pennsylvania.

GRAIN—Wheat in moderate demand at $1.37@$1.45 for white and $1.30@$1.32 for red. Rye active at 93 for Pennsylvania. Corn firm at 78c@80c for dry new yellow, and 75c@76c for new white; old yellow, 92c@98c; old white, 90c. Oats firm at 41c@43c for Southern: 44c@45c for Pennsylvania. Barley, 80c@85c. Buckwheat, 55c@57.

SEEDS—Clover, $4.50@$4.75 from wagons; $5@$5.25 from store. Timothy, $2.40@$2 50. Flax, $1.55 per bushel.

PROVISIONS—Mess Pork $17@$17.50; Dressed Hogs, $7@$7 per 100 lbs. Beef dull at $15 for city mess; beef rounds, $13.50@$15.75; Western mess, $10.50@$10.75 per bbl. Bacon—sides, 10¾c; Shoulders, 8¾c; Hams, 12c@12¾c for city smoked. Green hams in pickle, 10¾c per lb. Lard steady, 11c@11¾c for bbls and tierces, and 11¾c@12c for kegs. Butter 10c@12c for packed, and 16c@17c for roll. Cheese 10¾c@11¾c per lb. Eggs 20c per doz.

FRUIT—Green Apples, $2.50@$4. Cranberries, $12@$13 per bbl. Dried apples 6c@6¾c; dried peaches, 7c@10c for unpared, and 11c@15c for pared per lb.

CATTLE MARKET—Beef cattle firm at 8c@9¾c for prime quality; 7c@8c for medium; 6c@7c for common; and 3c@4c for stock cattle. Extra cattle sold as high as 10c. Sheep, 8c@8¾ per lb. dressed.

WOOL—Market firm, with small transactions at former rates.

BUFFALO MARKET.—Dec. 14.

FLOUR—Market steady with a fair demand. Fine, $3.75@$4; superfine, $4.50; extra State from spring wheat, $4.75@$5; Upper Lake extras, $5@$5.25; Indiana and Ohio extra, $5.50@$5.60; double extra do, $5.75@$6.25; Canadian, $5@$5.50@$6 for the range.

GRAIN—Market quiet and steady for Wheat. White in small lots, $1.37; Milwaukee and Canada Club, $1.05@$1.06; Chicago spring, No. 2, $1.02@$1.03. Corn steady at 60c@62c for new; 68c@70c for kiln-dried; damaged, 52c. Barley, 60c@65c. Rye, 80c@82c. Oats quiet and firm at 37c@38c. Peas dull at 60c.

SEEDS—Timothy, $2.37.

PROVISIONS—Market quiet. Mess Pork, $16 for heavy and $15 for light. Lard, 10¾c@11c. Dressed Hogs, $6@$6.50 per 100 lbs.

CHICAGO MARKET.—Dec. 12.

FLOUR—Market firm, with a light stock. Sales at $4.50@$4.75.

GRAIN—Wheat dull. No. 2 spring, 95c@97c; No. 1 do, $1.00@$1.01; Iowa club, $1.00. Corn quiet but firm. No. 1, 41c@43c. Barley steady at 58c@56c. Rye scarce at 75c@77c. Oats active at 41c@43c.

SEEDS—Clover, $4.50. Timothy, $1.90@$2.10. Hungarian, 65c@75c. Flax, $1.00@$1.10.

PROVISIONS—Mess Pork inactive at $15.00@$15.50. Mess Beef, $7.00@$8.00. Beef hams, $12.00. Tongues, $13 00. Bulk meats in fair request at 7c@7¾c for sides; 5c@5¾c for shoulders. Cut meats dull; green hams, 7c; shoulders, 5c. Dressed Hogs in fair demand at $5.00@$6.00, according to quality and weight. Lard steady at 10c@10¼c. Butter dull at 11c@18c for firkin, and 14c@17c for dairy. Cheese 10c@10¾c for Western Reserve; 10¾c@12c for Hamburgh. Eggs scarce at 16c@17c per dozen for fresh. Potatoes 35c@48c, for common to good, per bushel. Dressed Turkies, 7c@7¾c per lb. Dressed Chickens, $1.75@$1.85 per dozen.

FRUIT—Green Apples, $2.25@$3.00. Cranberries firm at $12@$12.50 per barrel. Dried Apples in good demand at 6¾c@7c. Dried Peaches, 9¼c@10¼c for unpared, and 12c@15c for pared, per lb.

CATTLE—Beef Cattle firm at $2.25@$3.00, as to quality. Hogs, $4.00@$5.00 per cwt. gross.
HIDES—Green country, 5½c@5¾c; green salted, 6c@6¾c; dry salted, 10c@11c; dry flint, 13c@13½c. Calf skins, 8c. Tallow, 10c per lb.
WOOL—Market quiet at former quotations.

CINCINNATI MARKET.—Dec. 12.

FLOUR—Quiet; superfine, $5.30@$5.40; extra, $5.50@$5.75.
GRAIN—Prime white Wheat $1.25@$1.28; prime red, $1.18@$1.20. Corn firm with a good demand at 50c. Rye firm and in demand at 80c. Barley active at 75c for prime fall. Oats in active demand at 52c@53c.
SEEDS—Clover active at $4.75. Timothy nominal. Flax firm at $1.10.
PROVISIONS—Mess Pork, $16.00@$16.50 and dull. Bulk meats dull at 6c@8c. Green hams, 7¼c@8c. Lard inactive at 10c@10¼c. Butter in good demand. Central Ohio, 16c@17c; Western Reserve, 18c@20c. Cheese active and firm at 9c for Western Reserve, and 11c for English dairy. Eggs in good demand at 19c per dozen. Green Apples firm at $1.75@$2.75 for fair to choice. Potatoes firm at $1.60, for prime Neshannocks, per barrel.
FRUIT—Dried Apples, 5½@6¾c. Dried Peaches, 9¾@10¾c per lb. Cranberries quiet at $11.00@$14.00 per barrel.
CATTLE—Beef Cattle in good demand, and market firm. Inferior $2.00@$2.50; fair to good, $2.75@$3.25; prime, $3.50@$3.90 per 100 lbs. gross. Sheep, $3.00@$5.00 per head. Lambs, $1.50@$3.00 per head. The supply of Hogs is large, and as money is tight the market is unsettled. We quote, $6.35@$6.40 per 100 lbs. net.
HIDES—Flint, 12½c@13c; dry salted, 11½c@12c; green salted, 6¾c@7c; green, 6c@6½c per lb. Sheep pelts, 75c@$1.00 each. Tallow, 10c@10½c per lb.
HAY—Prime Timothy, $17.00@$17.50 per ton.

TORONTO MARKET.—Dec. 12.

FLOUR—Superfine, $4.50@$4.60; extra, $5.00@$5.50; double extra, $5.75@$6.25.
GRAIN—Wheat active at $1.20@$1.30 for fall; spring wheat, $1.00@$1.05@$1.10. The latter for samples suitable for seed. Barley steady at 60c@65c. Rye in good demand at 75c@80c. Oats quiet at 37c@39c. Peas in good demand at 55c@57c per bushel.
PROVISIONS—Fresh Butter is scarce at 20c; first quality tub, 17c; second do. 13c@15c per lb. Eggs scarce at 17c per dozen. Apples, $2.00@2.50 for best quality, and $1.50 for common per barrel. Potatoes. 35c@40c per bushel Salt, $1.15@$1.18 per barrel for American on the dock, and on the cars. Liverpool salt in bags at 35c@$1.00. Dressed Hogs active at $5.75@$6.00 for light, and $6.25@$7.00 for heavy, per 100 lbs.
POULTRY—Turkies, 37½c@75c each. Geese, 30c@50c each. Ducks, 30c@40 per pair. Chickens, 25c@35c per pair.
CATTLE—First quality Beef Cattle, $6.00@$7.00; inferior, $3.50@$4.00 per 100 lbs. Sheep $4.00@$5.00. Lambs, $2.00@$3.50 per head.
HAY—Supply limited; $20@$30 per ton. Straw—scarce at $13@$14 per ton.

LIVERPOOL MARKET.—Nov. 29.

FLOUR AND MEAL—Western canal Flour, $5.52@$5.76 for old, and $6.38@$6.60 for new; Philadelphia, Baltimore, and Ohio, $5.76@$6.48; Canadian, $6.24@$6.72; extra qualities, $6.72@$7.44; sour, $5.04@$5.52. Corn Meal, $4.56@$4.80.
GRAIN—American white wheat, $1.51@$1.66; red do. $1.40@$1.51; Canadian white, $1.44@$1.53; do. red, $1.30@$1.44. Indian corn—white, $1.08@$1.14; yellow, 96c@99c; mixed, 96c@97½c. All per bush. of 60 lbs.
Market dull and declining for both Flour and Grain.
WOOL—Domestic fleece, 11c@38c. Colonial and Foreign without change to notice; but with an upward tendency.

LONDON MARKET.—Nov. 28.

FLOUR—American sour, $5.52@$6.48; sweet, —.
GRAIN—Wheat—American white, $1.20@$1.47; do red, $1.26@$1.41. Indian corn—white, 93c@$1.02; yellow, 90c@96c, per 60 lbs.
Both Flour and Grain have a downward tendency.
WOOL—Steady, with no change in prices to notice. Holders are very firm in anticipation of higher rates.

BRIGHTON CATTLE MARKET.—Dec. 15.

At market, 1400 Beeves, 160 Stores, 2000 Sheep and Lambs, 400 Swine.
PRICES—Market Beef—Extra. $8.00@$0.00; First quality, $7.50@7.75; Second. $6.75; Third, $4.75@$5. Working Oxen—$8@$160. Milch Cows—$39@$44; Common, $16@$19. Veal Calves—$3.00@$5.00. Yearlings—$11@12. Two Years old—$16@$21. Three Years old—$23@$24. Hides—6c@6¾c per lb. Calf Skins—10c@12c per lb. Tallow—7@7¾c. Sheep and Lambs—$1.25@$1.50; extra, $2.00@$2.75 Pelts—$1.00@$1.25. Swine—Fat Hogs, none. Pigs, 5c@6c; retail, 5¾c@6¾c.
Beeves are sold here by the head, at prices per lb. equal to the estimated weight of beef in the quarter, together with the fifth quarter, or the hide and tallow, at the same price, at a shrinkage from live weight agreed on by the parties—from 28 to 54 per cent.

ADVERTISEMENTS.

A FEW short advertisements of interest to farmers—and only such—will be inserted in the *Genesee Farmer* for twenty cents a line, or $2 per square, each insertion, payable in advance. To secure insertion, they should be sent in by the 15th of the previous month. The *Farmer* has large lists of subscribers in *every State and Territory, and in all the British Provinces.* (It has nearly 3000 subscribers in Canada West alone.) There is no better or cheaper medium for advertising everything of general interest to rural residents in all parts of the United States and Canada.

The Rural Annual
AND
HORTICULTURAL DIRECTORY,
FOR 1860.

THE FIFTH VOLUME of THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY is now published. It contains *One Hundred and Seven Illustrations.* It is unquestionably the handsomest work of the kind yet published in this country. It contains ONE HUNDRED AND TWENTY PAGES, abounding in useful and interesting information.

NO FARMER OR FRUIT GROWER SHOULD BE WITHOUT A COPY.

Among the Contents will be found Articles

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ON INSECTS INJURIOUS AND BENEFICIAL TO THE FARMER AND FRUIT GROWER—75 *Illustrations.*
ON DWARF PEARS, APPLES, PLUMS, AND CHERRIES—*Six Illustrations.*
ON THE CULTIVATION OF THE AMERICAN BLACK RASPBERRY—*One Illustration.*
ON THE MANAGEMENT AND VARIETIES OF PIGEONS—*Fourteen Illustrations*
ON PLANTING EVERGREENS—*Two Illustrations.*
ON ORNAMENTAL DECIDUOUS TREES—*Seven Illus.*
ON THE DISEASES OF ANIMALS—REMEDIES, ETC.

The Illustrations have been obtained at great expense, and are superior to anything of the kind yet published in this country.
Let every one interested in the Culture of the Soil, or in the improvement of Rural Taste, send for a copy.

ONLY TWENTY-FIVE CENTS!

Sent pre-paid, by mail, to any address, on the receipt of the money in three cent postage stamps.

Address **JOSEPH HARRIS,** ROCHESTER, N. Y.
Publisher of the *Genesee Farmer.*

☞ The bound volumes for 1856, 1857, 1858, and 1859, can be had at 25 cents each, postage paid.

GRACE GREENWOOD'S
LITTLE PILGRIM!

A NEW VOLUME of this favorite monthly for children, will begin with the number for January, 1860, in which will be commenced a new and original story by that unrivalled writer for children,

MARY HOWITT,
CALLED
THE HOLY WELLS OF WYVEN;

Also, a new and *true* story by

GRACE GREENWOOD,
CALLED
A LITTLE HERO.

While from month to month will appear a varied array of choice stories, poems, child-anecdotes, puzzles, rebuses, charades, &c., by numerous and talented writers. The low price of this magazine brings it within the reach of all—the price being

Only 50 Cents a Year!

Specimen copies, containing *club rates, a list of premiums, &c.* will be sent free of charge, to all who request them.
Address, *postpaid always,*
LEANDER K. LIPPINCOTT,
Jan., 1860.—1t 132 South 3d Street, Philadelphia, Pa.

$30 PER MONTH.—Wanted, the address of good Book Agents who will travel for *thirty dollars per month,* and expenses paid. S. F. FRENCH & CO.,
Nov., 1859.—3t 121 Nassau street, New York.

A COMPLETE GRIST MILL FOR $20.

THE TOM THUMB GRIST MILL.

THIS mill has been well tested, and its qualities are fully established. It is now offered to the public as the latest improved and best cast iron mill in use. Its construction is entirely simple, requiring no skill in mechanism, or in the art of grinding to operate it.

It is furnished with an ingenious device for regulating the feed, which is placed within the throat of the mill. This invention supplies the place of the cumbersome and vexatious *rattle-staff and shoe*, performing conveniently all the offices of both.

The axis of the mill is horizontal, and it is arranged to be run with a belt from a horse-power, or any ordinary motor.

It may be run with a two horse-power, up to a speed of two hundred and fifty revolutions per minute, or it may be operated with proportionally increased results, for every increment of power and speed, up to four or more horse-power, and four or six hundred revolutions per minute.

☞ The mill is warranted to perform as stated.

The following letter is from a responsible gentleman, who is using one of the mills:

MENDOTA, ILLINOIS, February 14th, 1859.

MESSRS. HEDGES, FREE & CO.—*Gents:*—The little Tom Thumb Grist mill you sent me, is the best thing of the kind in use. We have ground corn, oats, barley, Hungarian grass-seed, and buckwheat. It works equally well with each. We ground six bushels per hour, and are confident that we can put eight bushels of dry corn through, and then make as good meal as can be made with burrs. WARREN CLARK, Sec. of the Eagle Co.

Shipping weight, packed for transportation by rail or express,.....140 lbs.
Price,.....$20

HEDGES, FREE & CO.
January, 1860—1t No. 6 Main street, Cincinnati, Ohio.

1860. AMERICAN STOCK JOURNAL. 1860.

THE great success which has attended the publication of the First Volume of the AMERICAN STOCK JOURNAL, has induced the Proprietor to undertake several improvements for the Volume commencing January, 1860, and he now offers it to the public with the assurance that its present high character will be fully sustained, and no effort will be spared to render the paper an indispensable necessity to all interested in the Breeding and Management of our Domestic Animals.

The VETERINARY DEPARTMENT will be under the editorial direction of Doct. GEO. H. DADD, the distinguished Veterinary Surgeon, and the late Editor and Proprietor of the *American Veterinary Journal*.

Each number of the paper contains 32 large octavo pages, and is handsomely illustrated. It is published monthly at 25 PARK ROW, NEW YORK. Terms, $1 per year, *invariably in advance*, with a liberal discount to clubs.

☞ Specimen copies gratis. Money may be sent at publisher's risk, in *registered* letters.

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C. M. SAXTON, BARKER, & CO., AGENTS,
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GENTILLY, near Paris, FRANCE,

BEGS to announce that he has on hand a large assortment of very fine ROSE TREES, also PEAR and QUINCE STOCKS, for sale at a moderate price. Apply to
j3t PAUL BOSSANGE, 59 Liberty street, New York.

HUNGARIAN GRAPE SLIPS.—John Kolber's second importation of Hungarian Grape Slips, consisting of 30,000 hardy shoots, embracing a selection of *twenty-one of the choicest* varieties of table and wine grapes, suitable for out-door culture in every section of the United States, will be received in March next. We have also ordered, for gratuitous distribution, one case of the "*Makbavalo Szilva*," or free-stone Plum. Discriptive Catalogues will be forwarded by addressing the undersigned.
Jan'y—1t JOHN KOLBER, No. 592 Broadway, New York.

RURAL EMPIRE CLUB will furnish the most popular Agricultural, Literary, and News Periodicals, at low rates, with Premiums to each subscriber. *Positive, and no chance game.* Premiums consist of new and rare Seeds of Vegetables and Flowers, splendid Engravings—among which is that beautiful FIVE-DOLLAR PRINT, THE WASHINGTON FAMILY—and *all* the Dime Books which are flying through the mails like a whirlwind, from the Atlantic to the Pacific. Circulars sent on application to
1t I. W. BRIGGS, West Macedon, Wayne Co., N. Y.

SEEDS AT WHOLESALE!—Our new TRADE CATALOGUES of GARDEN, FIELD, FLOWER, AND TREE SEEDS, for 1860, is now ready for mailing to all *Dealers* enclosing a postage stamp.

OUR STOCK OF SEEDS is the finest and most extensive ever offered in this country, and to parties requiring them in *large* quantities we offer unusual inducements.

J. M. THORBURN & CO.,
Jan., 1860.—1t 15 John Street, New York.

Seeds of Evergreen Trees and Shrubs.

WE are now in receipt of several leading varieties of TREE AND SHRUB SEEDS, in advance of our extensive assortment, of over 300 sorts, a Catalogue of which will be published on the first of February.

NORWAY SPRUCE SEED,.....	75	cts. per lb.
EUROPEAN SILVER FIR,.....	$1 00	"
BLACK AUSTRIAN PINE,.....	3 00	"
PITCH PINE,.....	3 00	"
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EUROPEAN LARCH,.....	2 00	"
CHINESE ARBOR VITÆ,.....	2 50	"
AMERICAN DO., (clear seed,).....	6 00	"
HEMLOCK SPRUCE, (clear seed,).....	6 00	"
SEA SIDE PINE,.....	1 00	"
BALSAM FIR,.....	3 00	"
WHITE, AND BLACK BIRCH, each,.....	2 00	"
YELLOW AND WHITE ASH, "	1 00	"
CEDAR OF LEBANON CONES,.....	20	cts. each.
SCOTCH FIR,.....	1 50	per lb.
HONEY LOCUST FOR HEDGES,.....	75	"
YELLOW-TIMBER LOCUST,.....	75	"
BUCKTHORN SEED,.....	1 00	"

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